

Fig. 1

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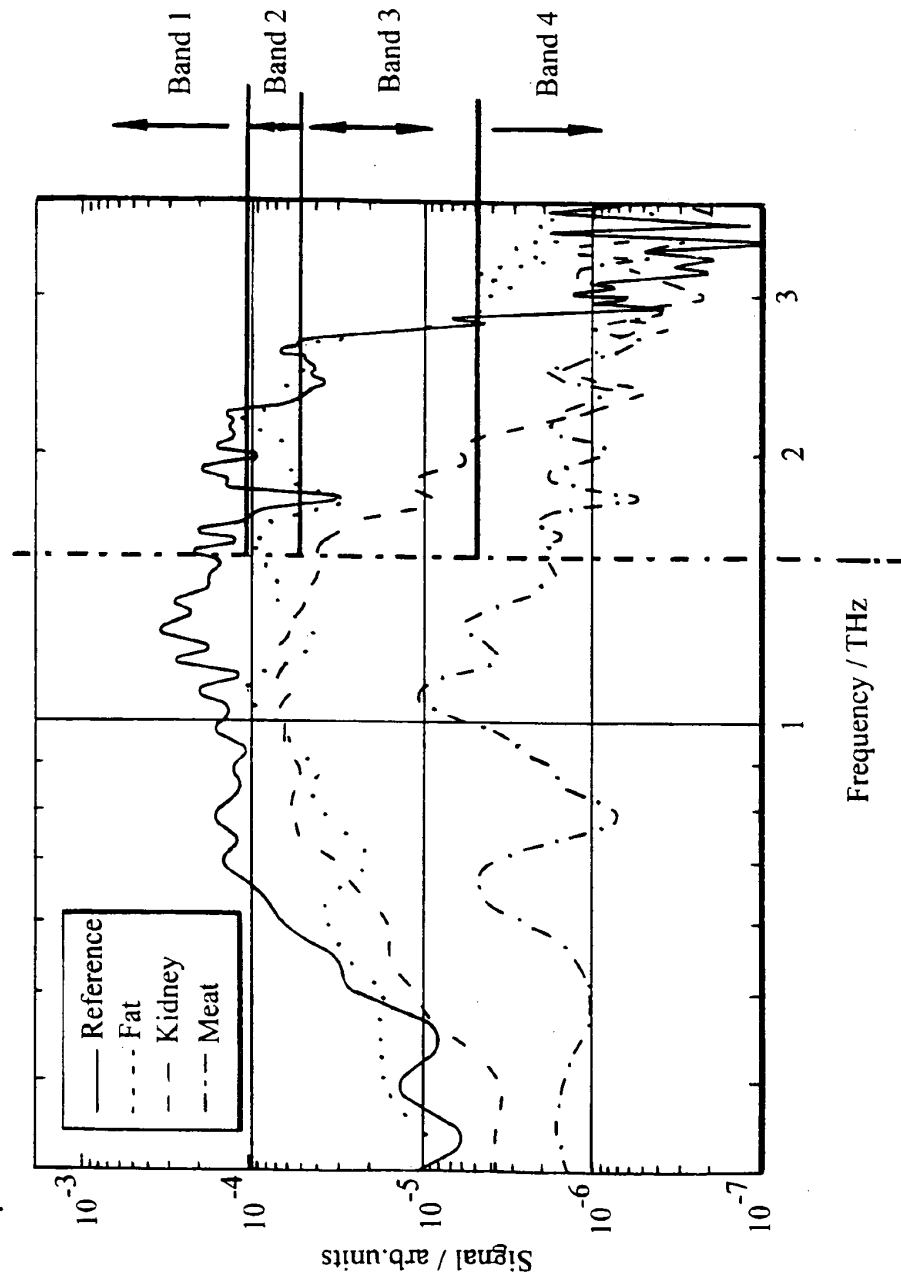


Fig. 2

SUBSTITUTE SHEET (RULE 26)

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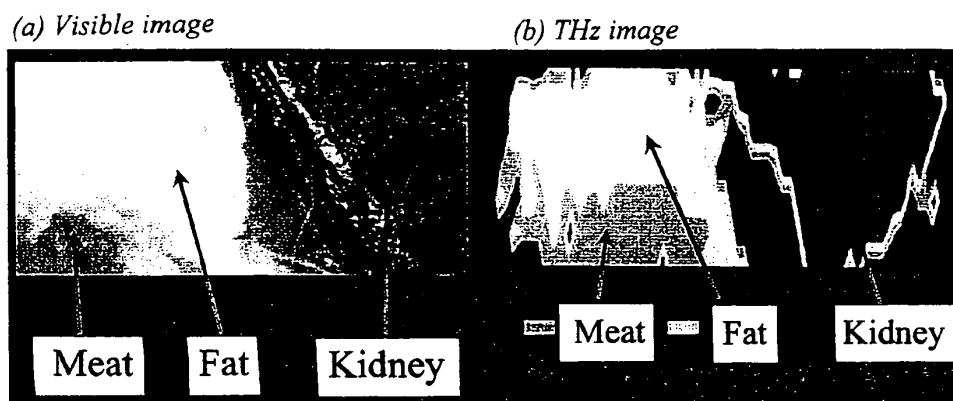


Fig. 3

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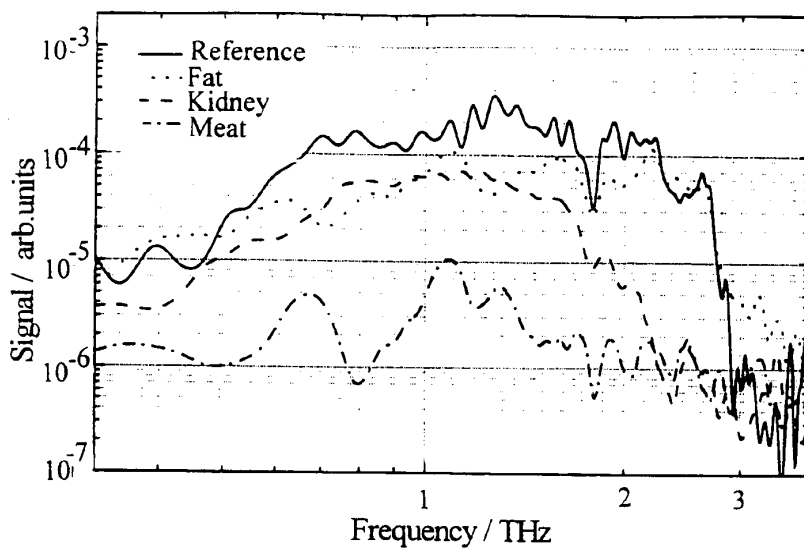


Fig. 4

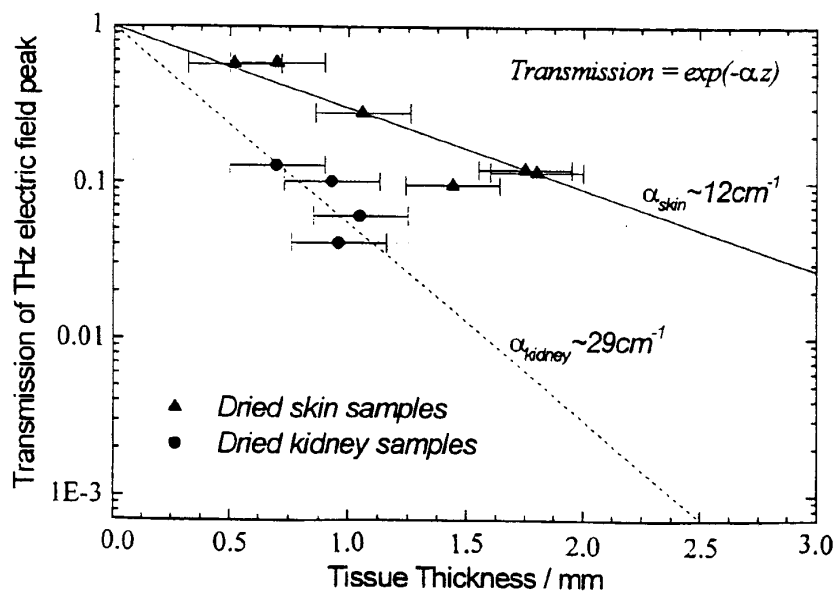


Fig. 5

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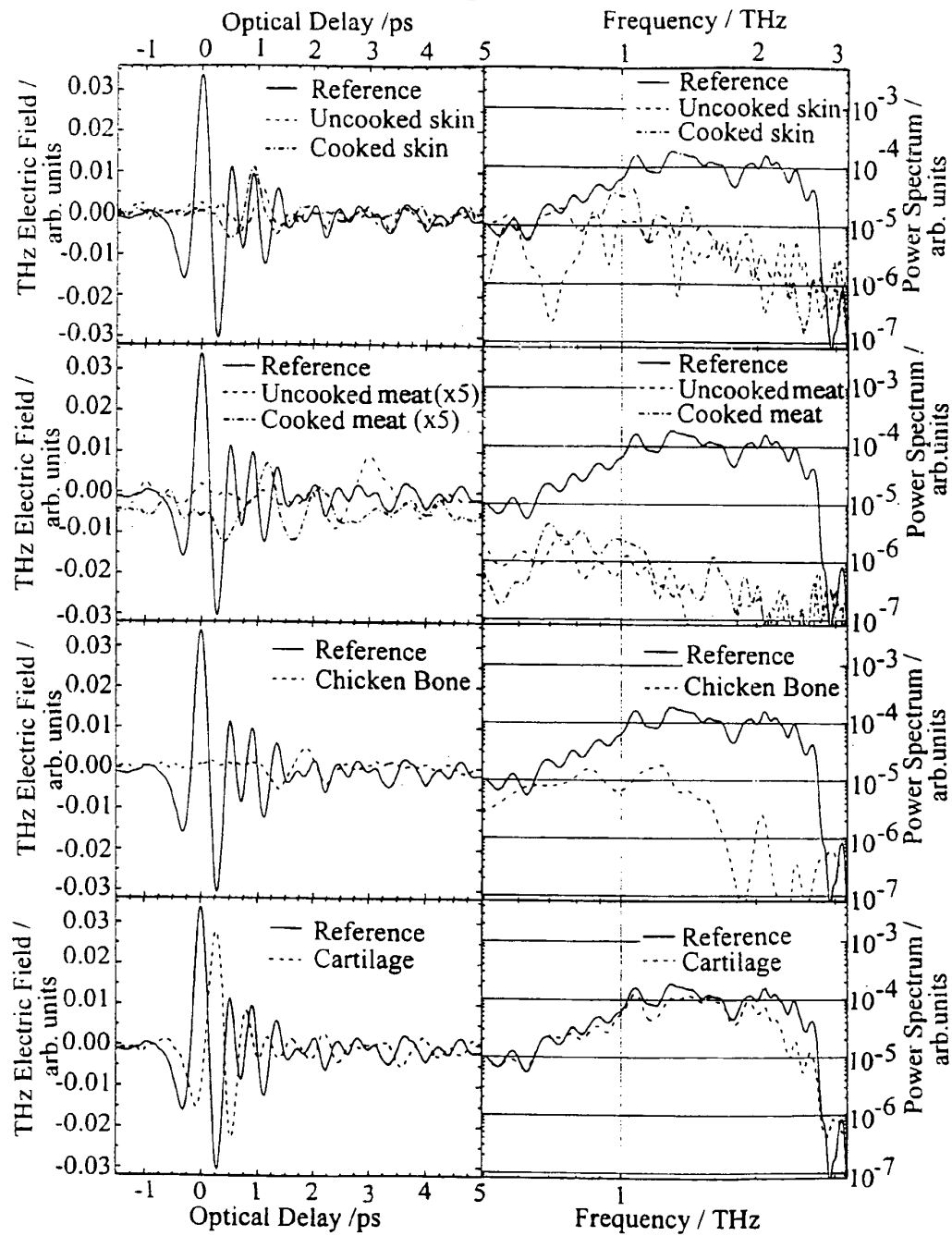


Fig. 6

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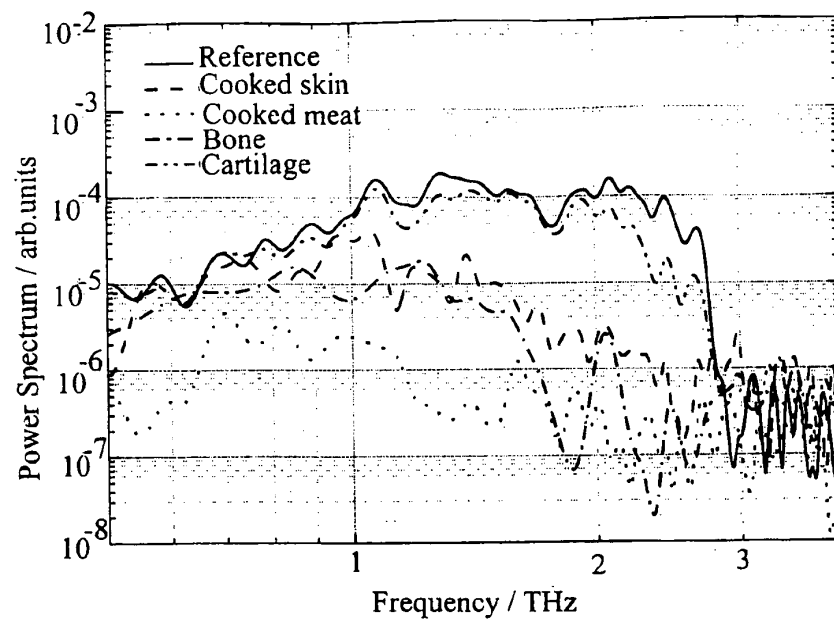


Fig. 7

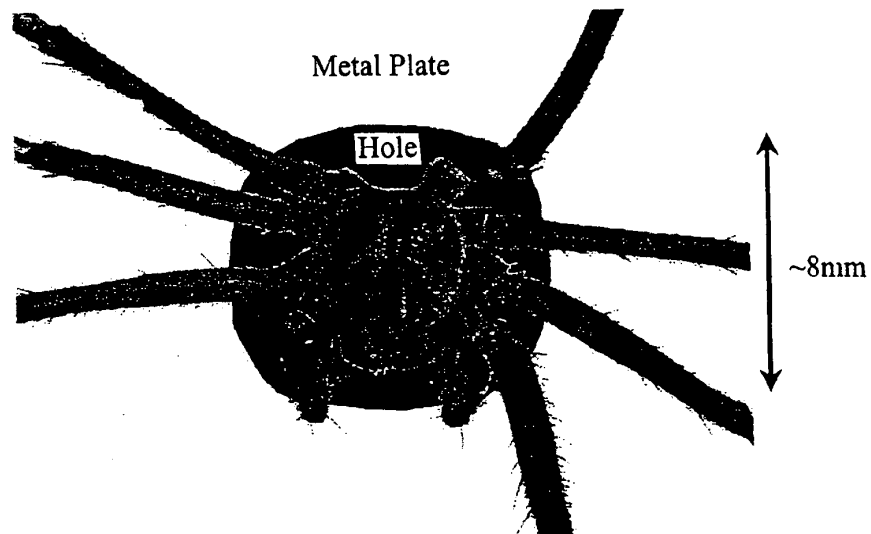


Fig. 8

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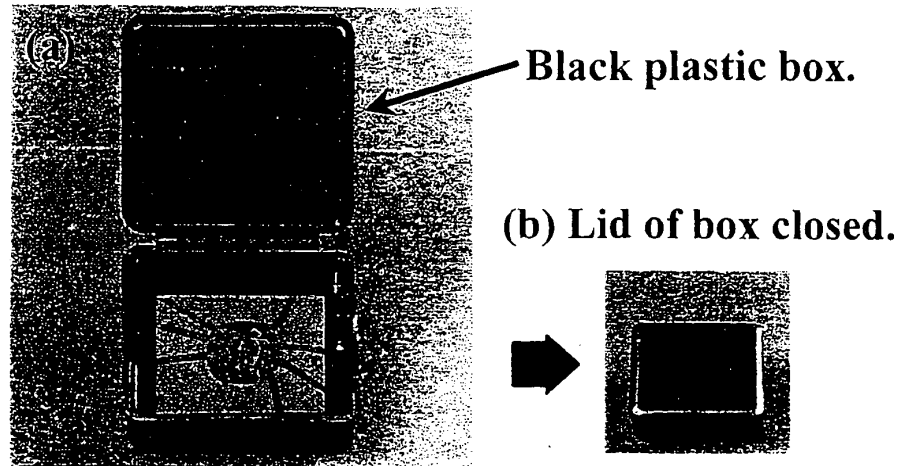


Fig. 9

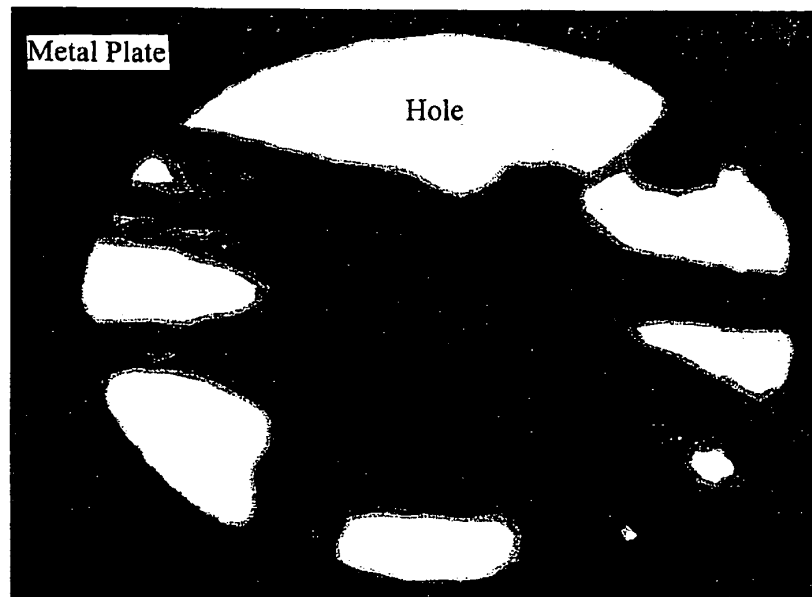


Fig. 10

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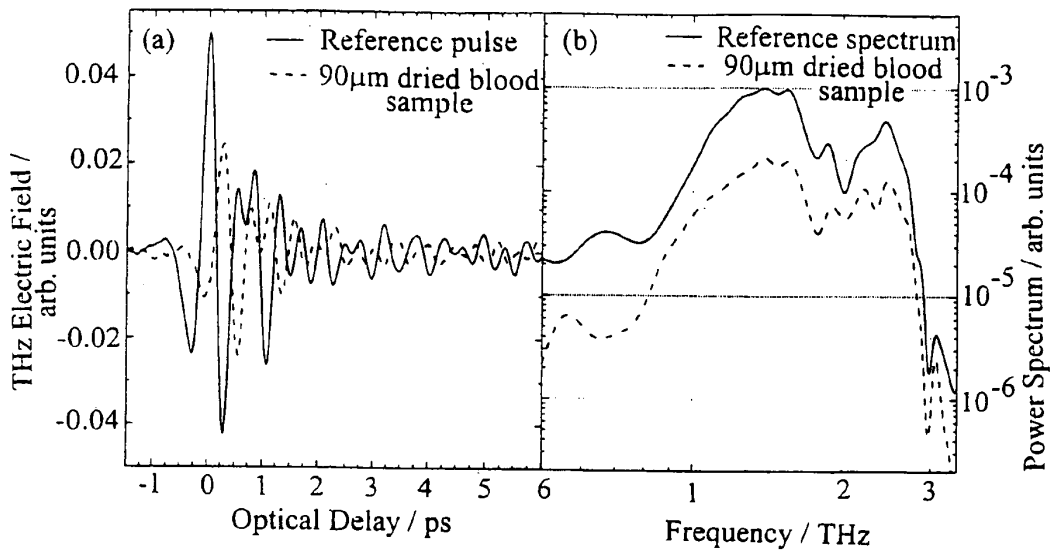


Fig. 11

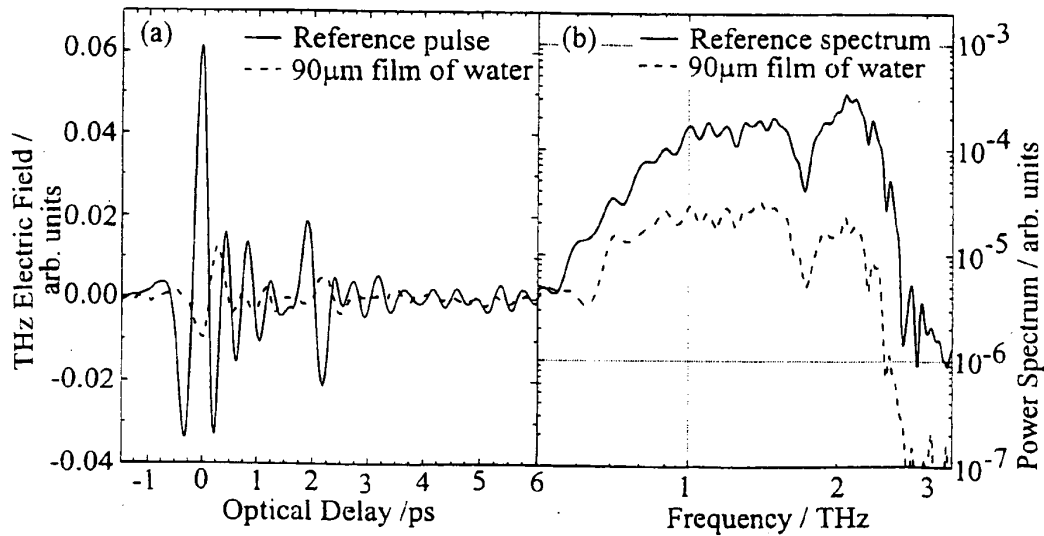


Fig. 12

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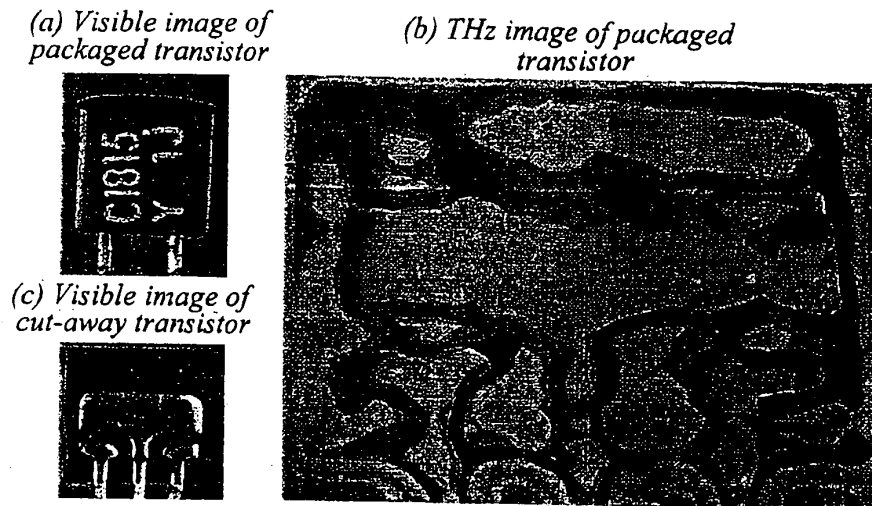


Fig. 13

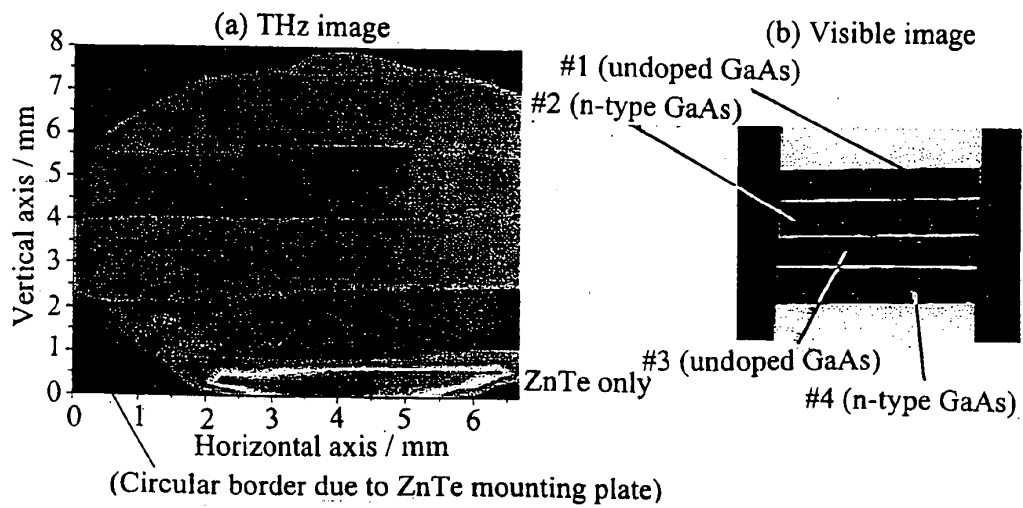


Fig. 14

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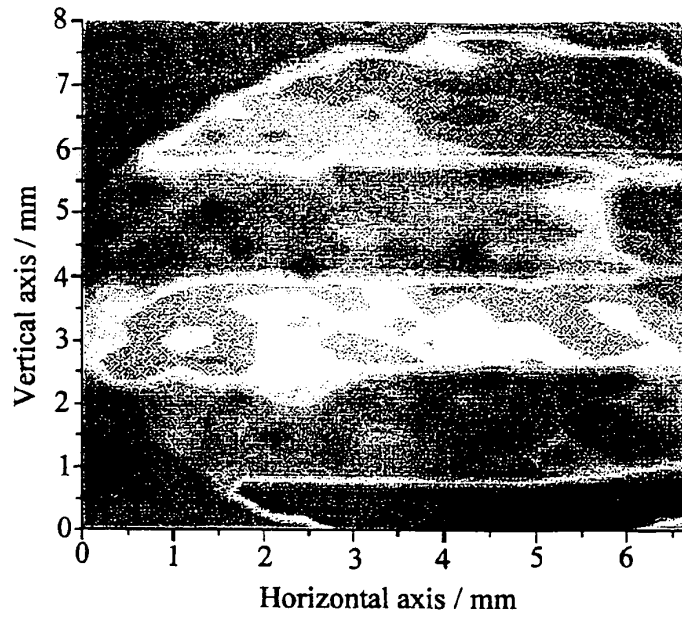


Fig. 15(a)

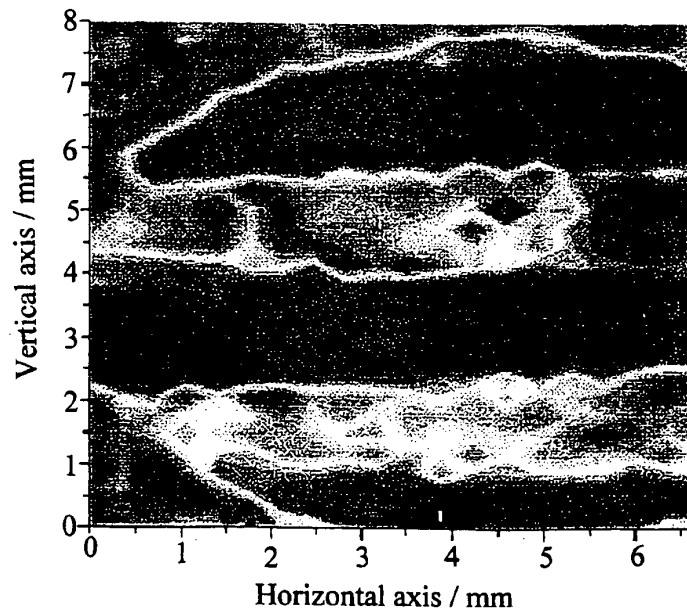


Fig. 15(b)

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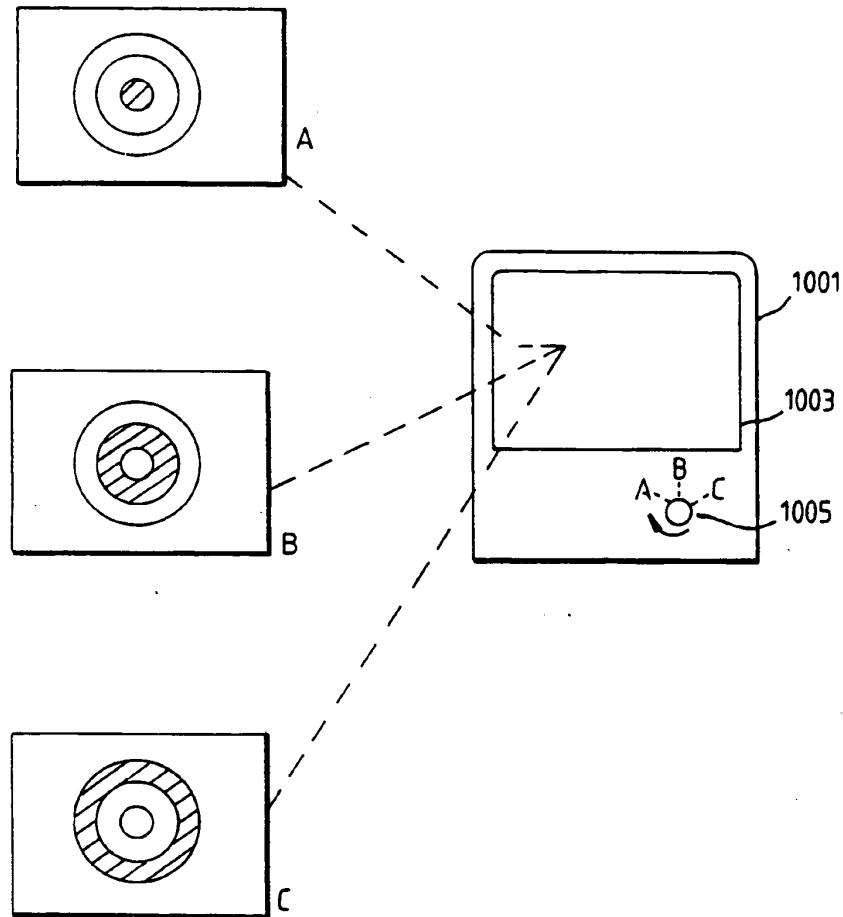


Fig. 16

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fs-ps pulsed visible laser 37

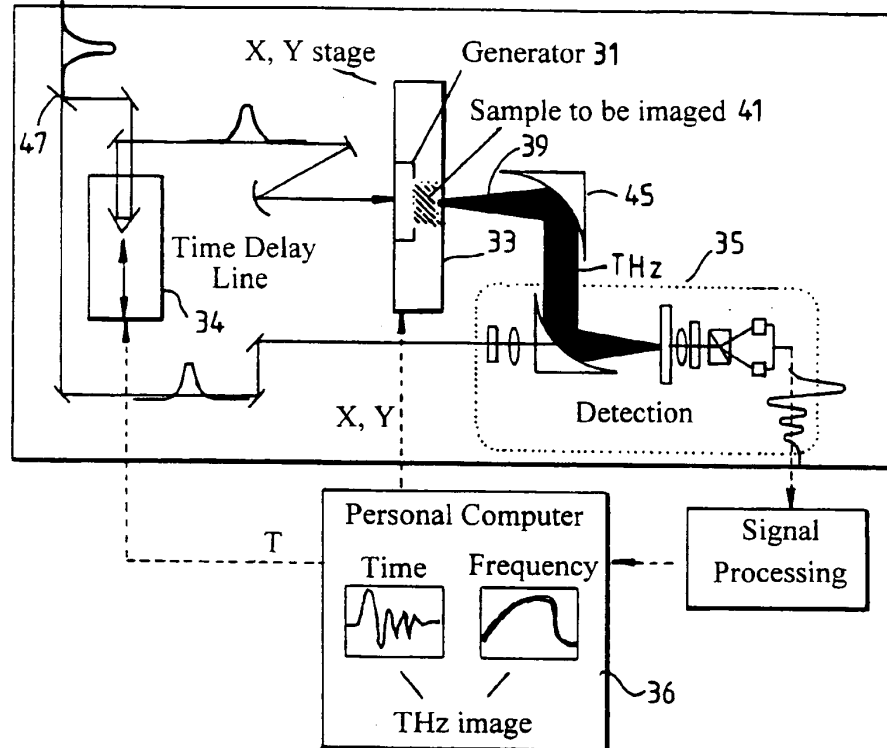
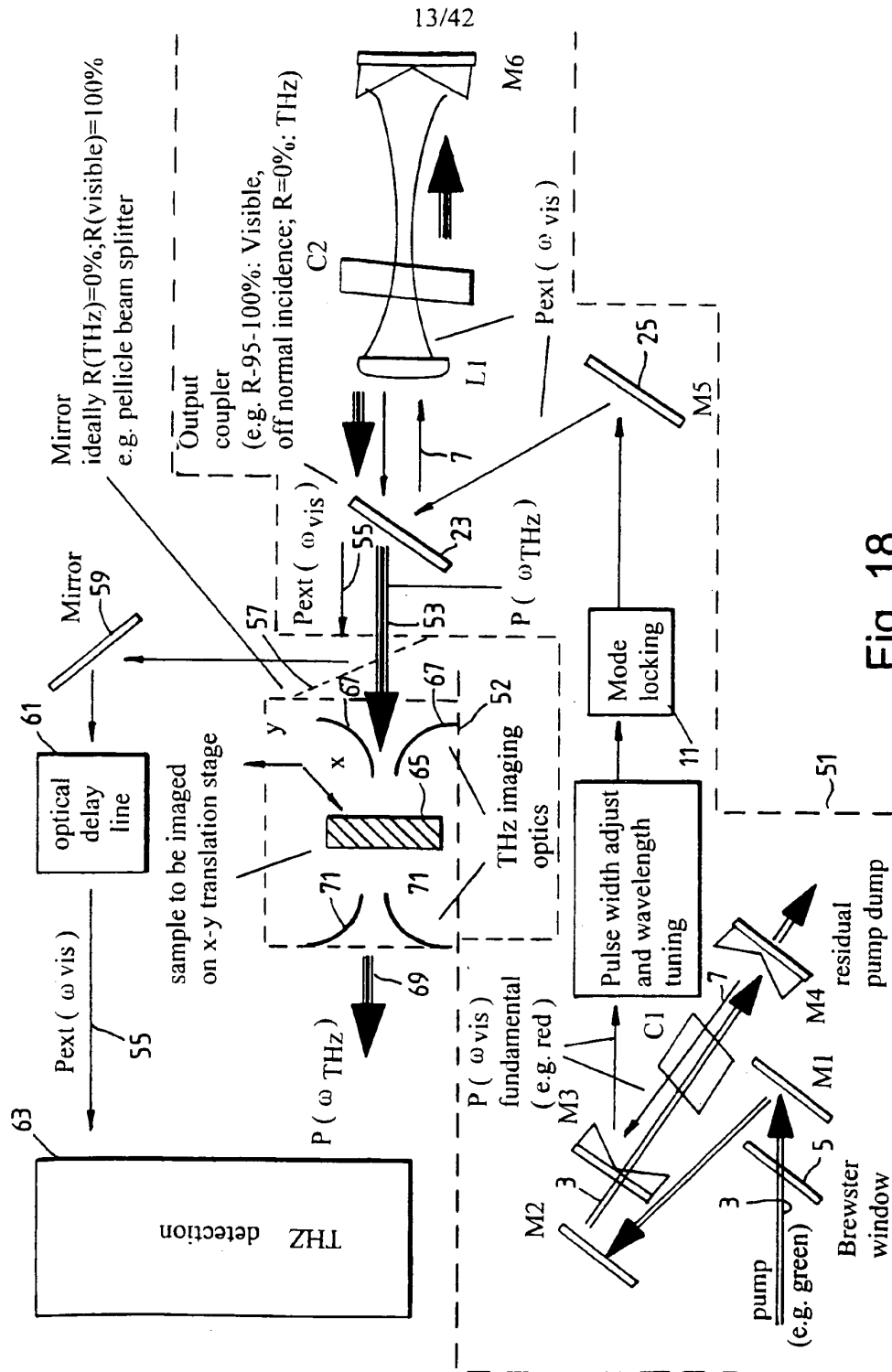
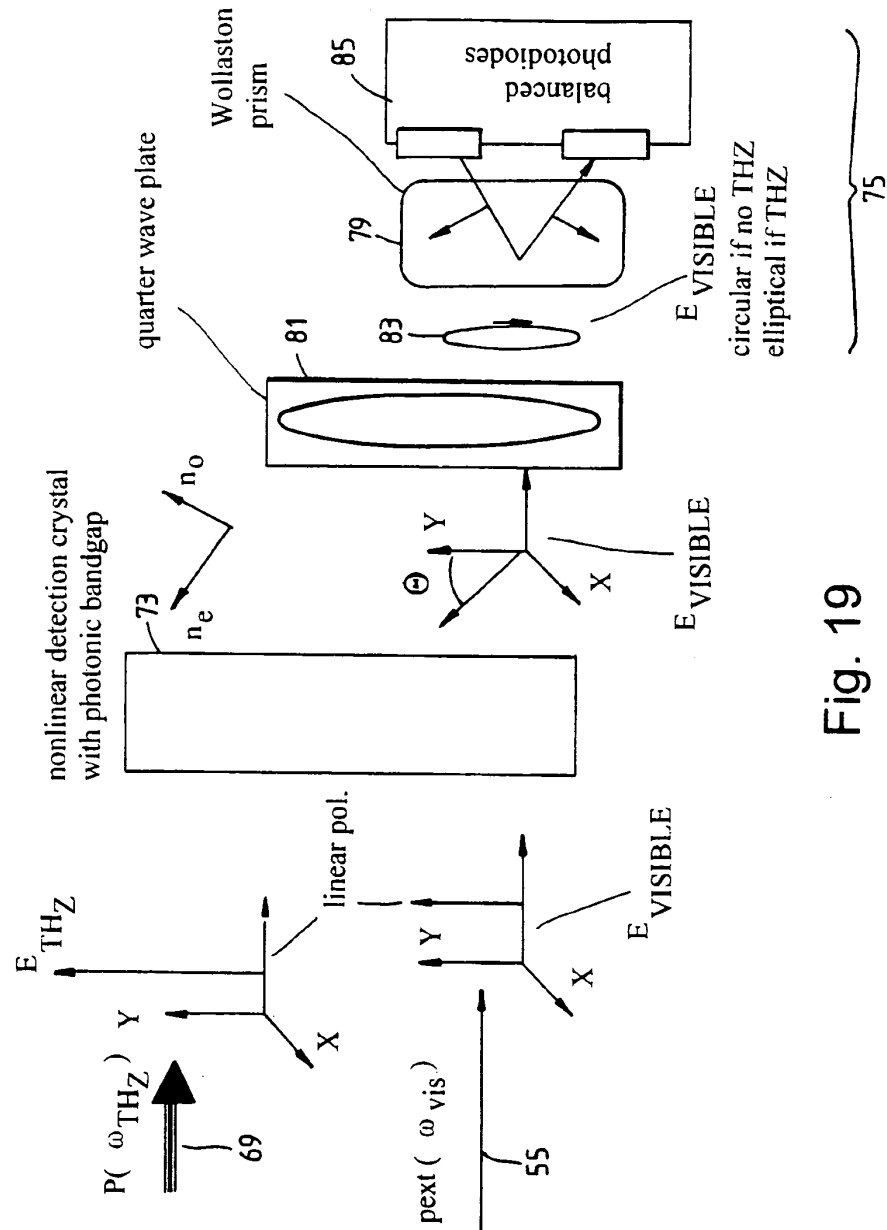
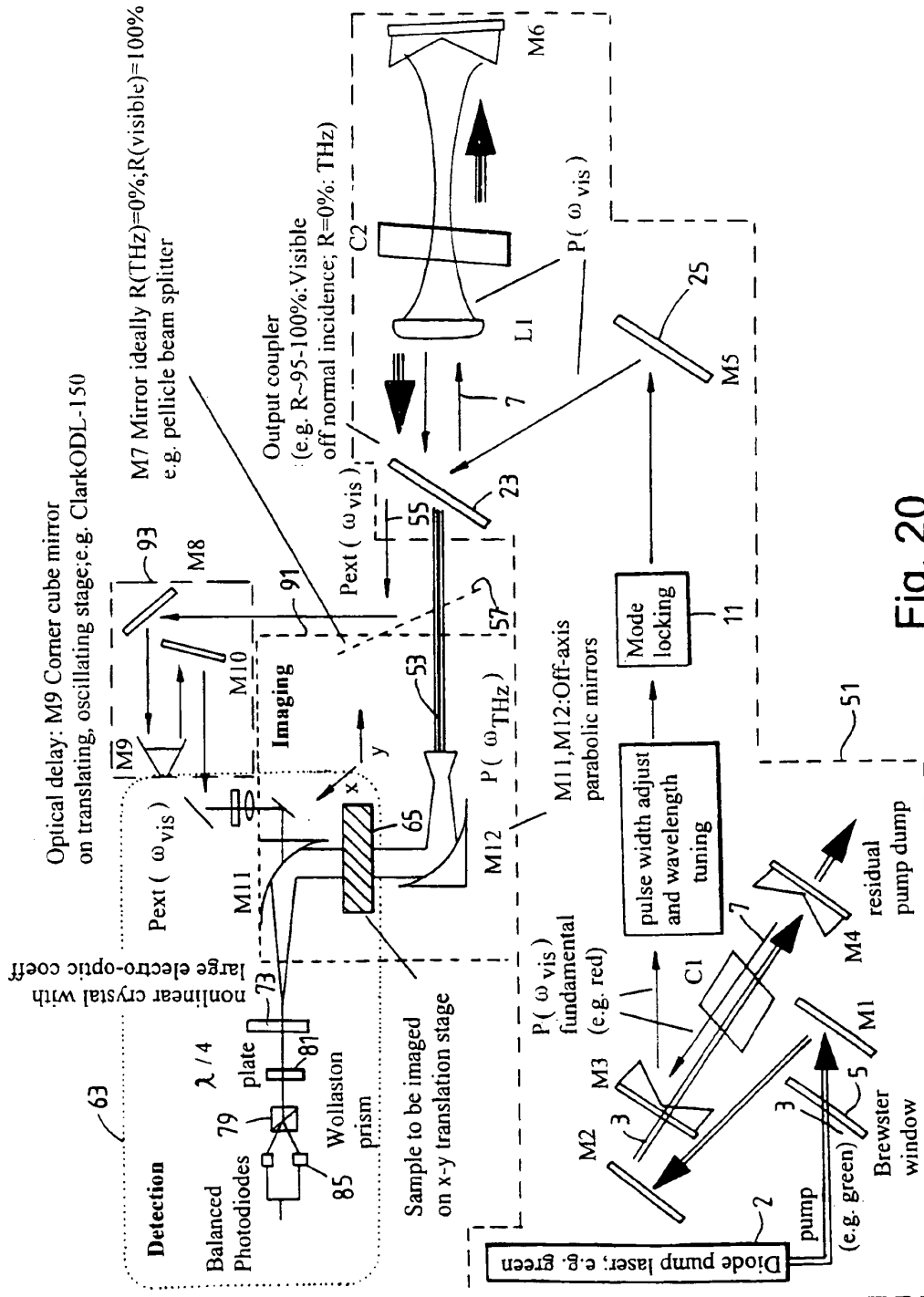


Fig. 17





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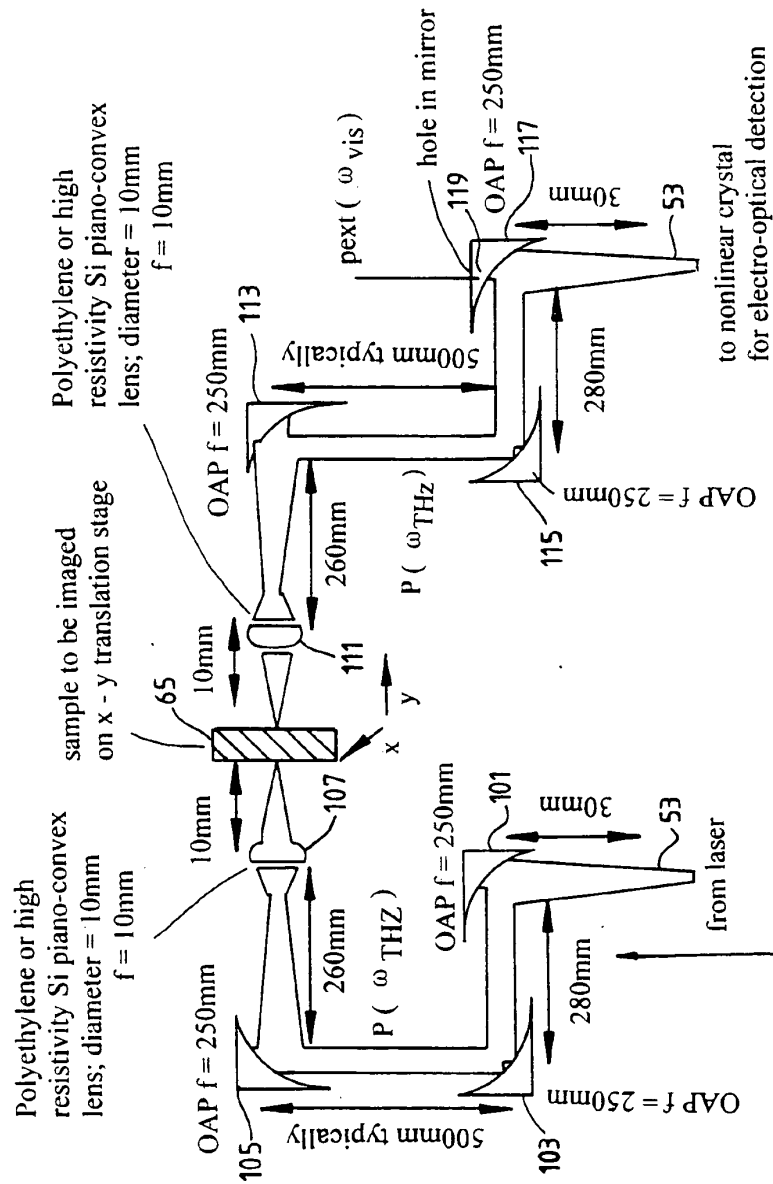


Fig. 21

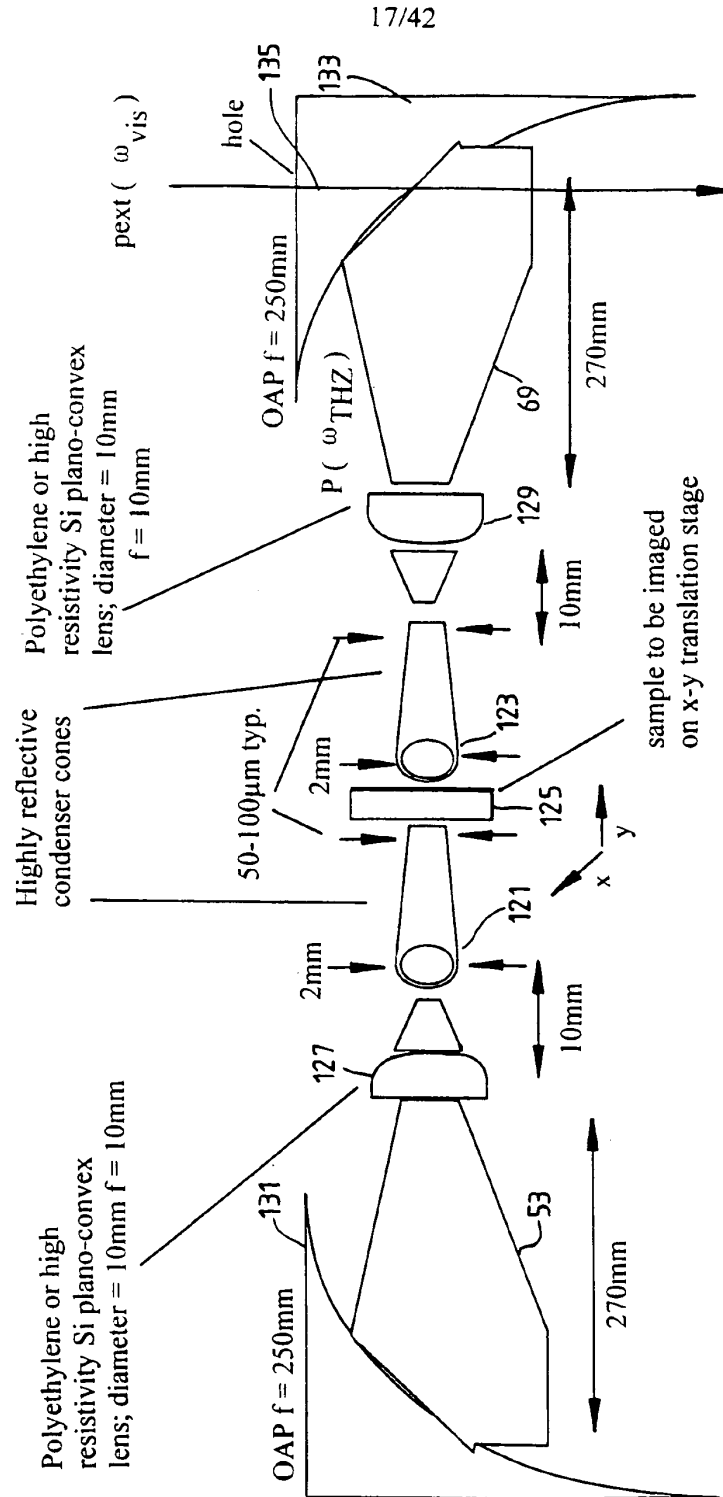


Fig. 22

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Optional: Lens and condenser cones similar to those in Figure 10 for enhanced spatial resolution in x-y plane of object.

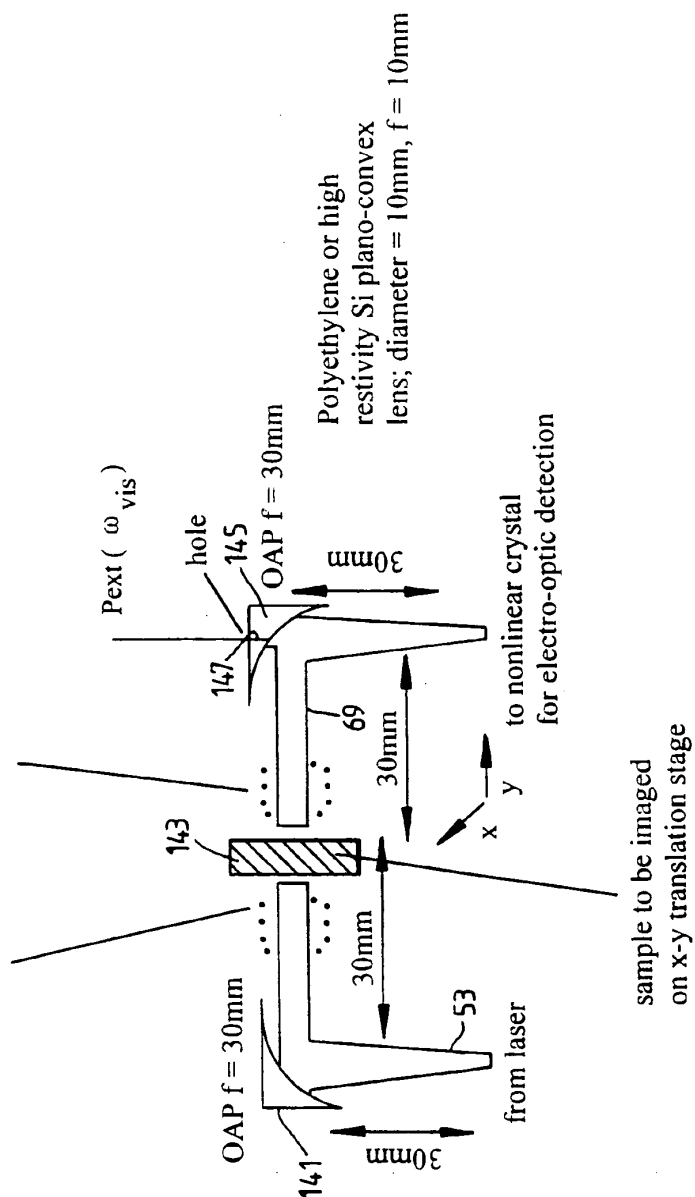


Fig. 23

Fig. 24

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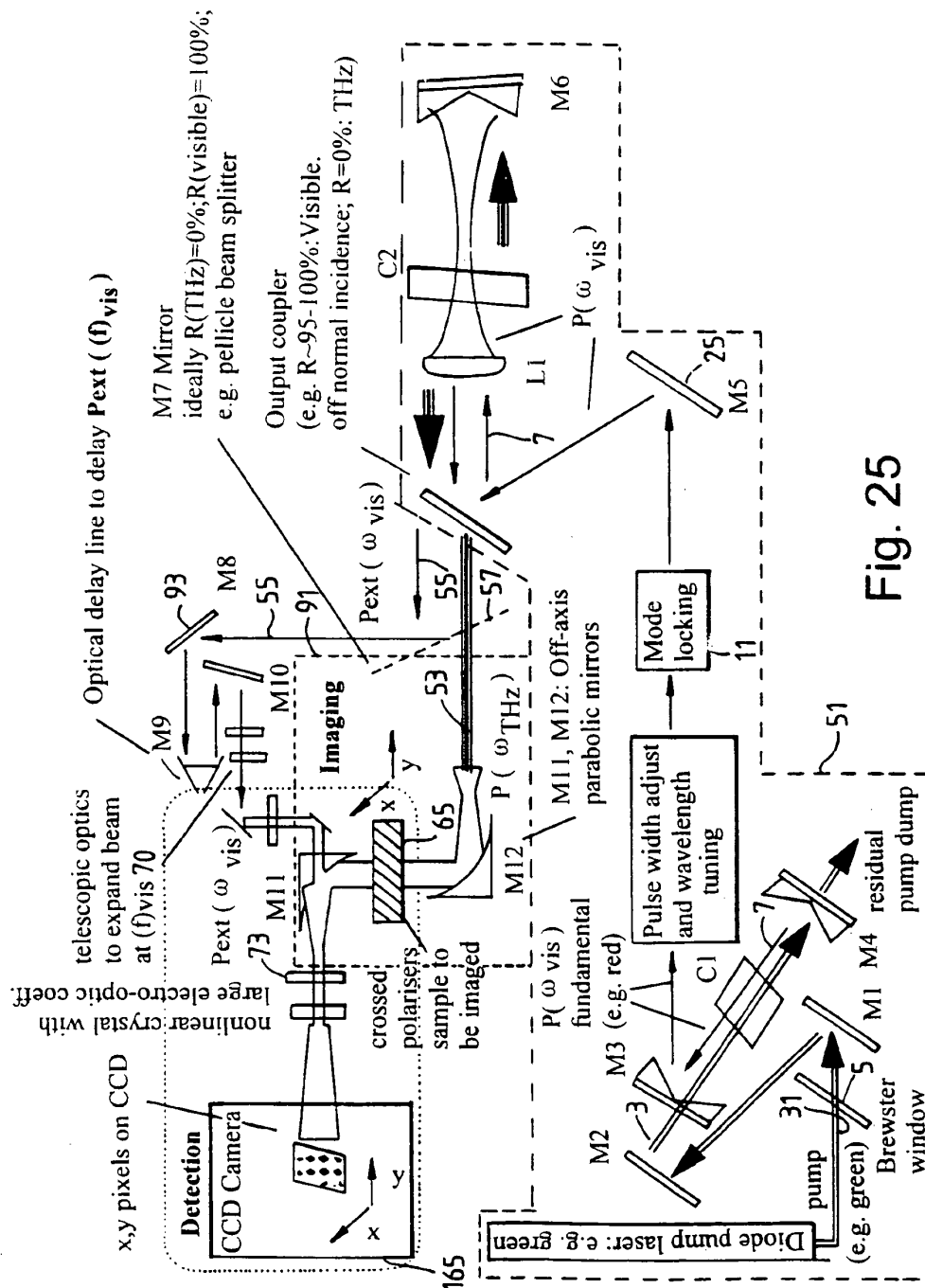


Fig. 25

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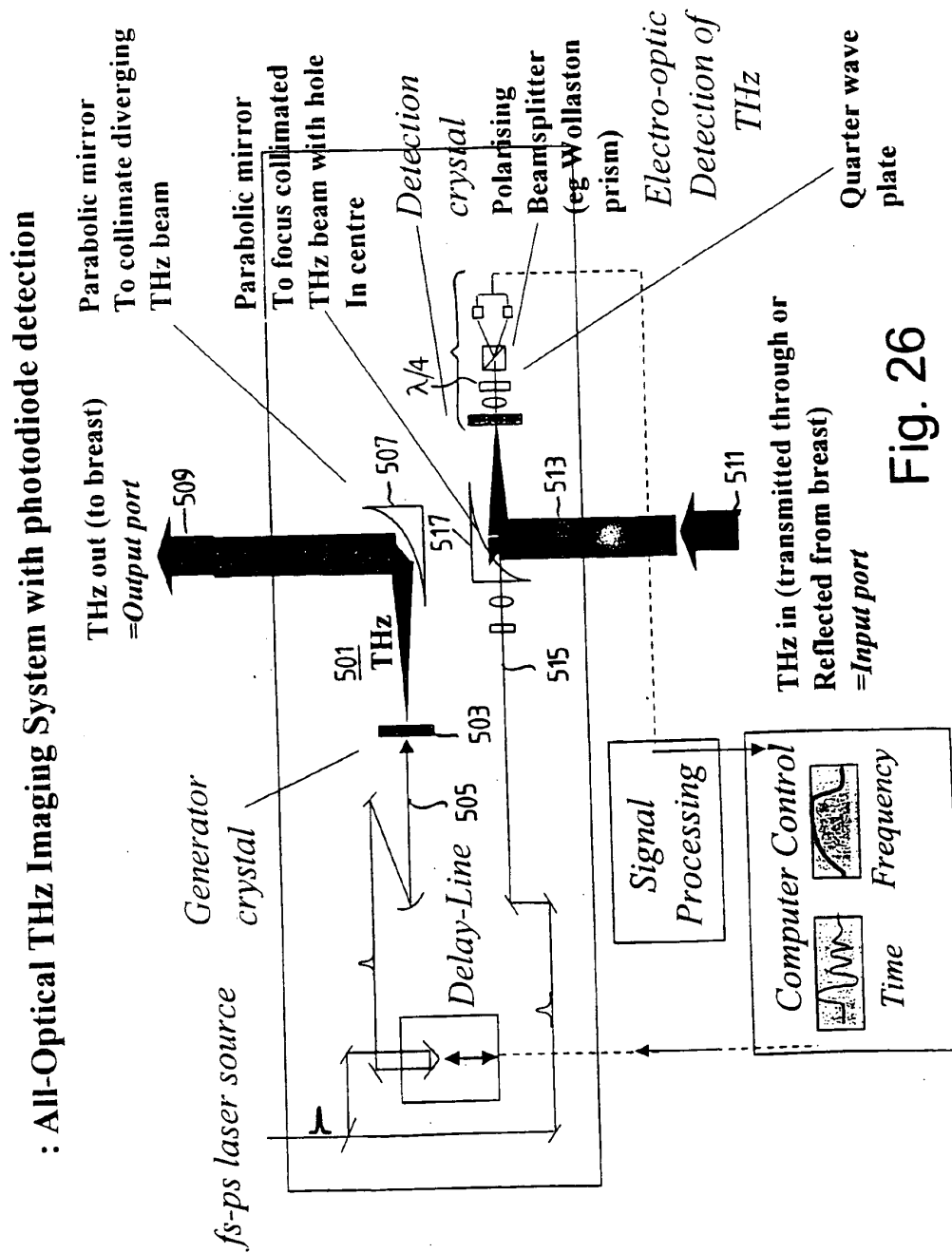


Fig. 26

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: All-Optical THz Imaging System with CCD detection

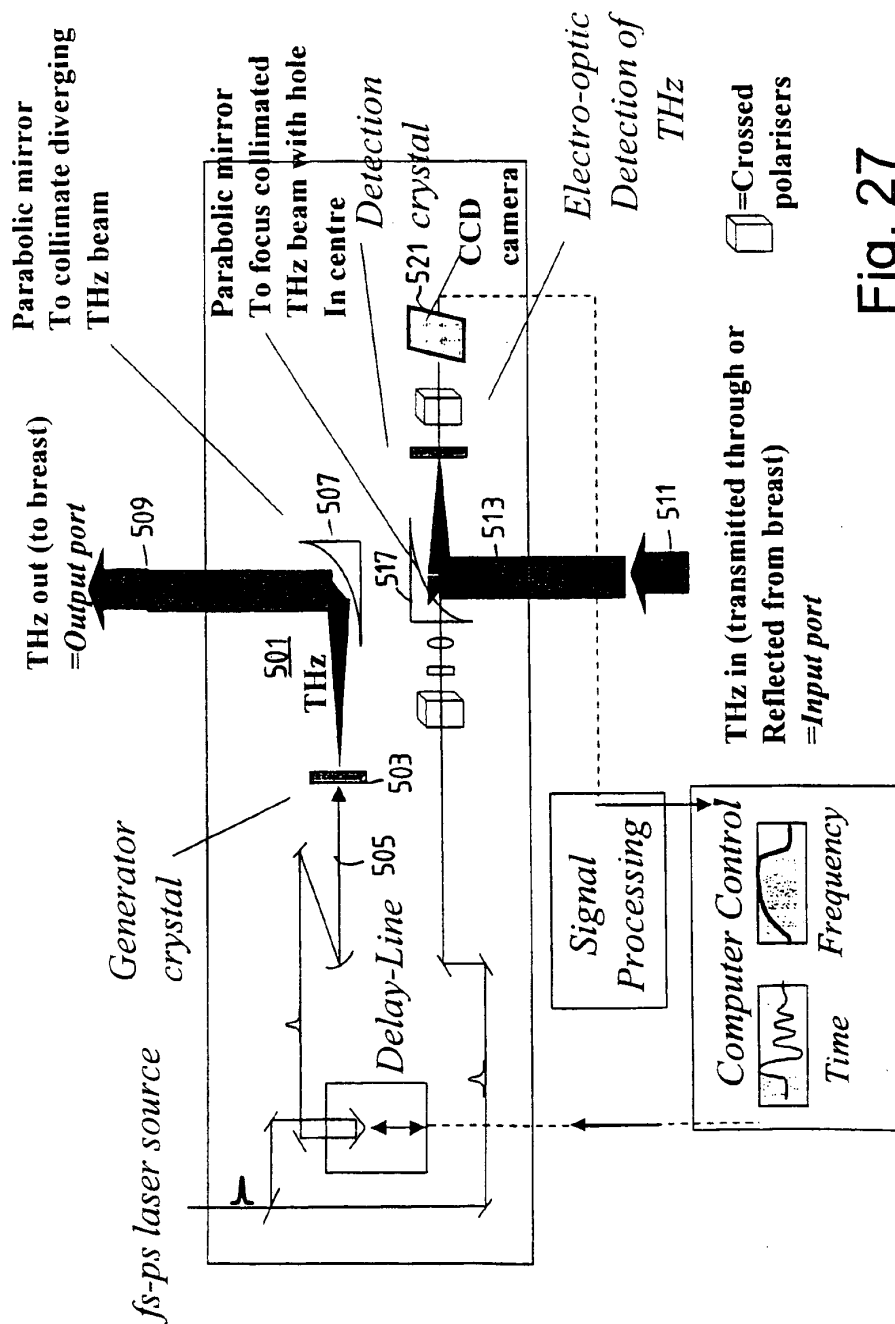


Fig. 27

: Sample port for THz breast screening
(for use with all-optical systems in Figures 2 and 3)

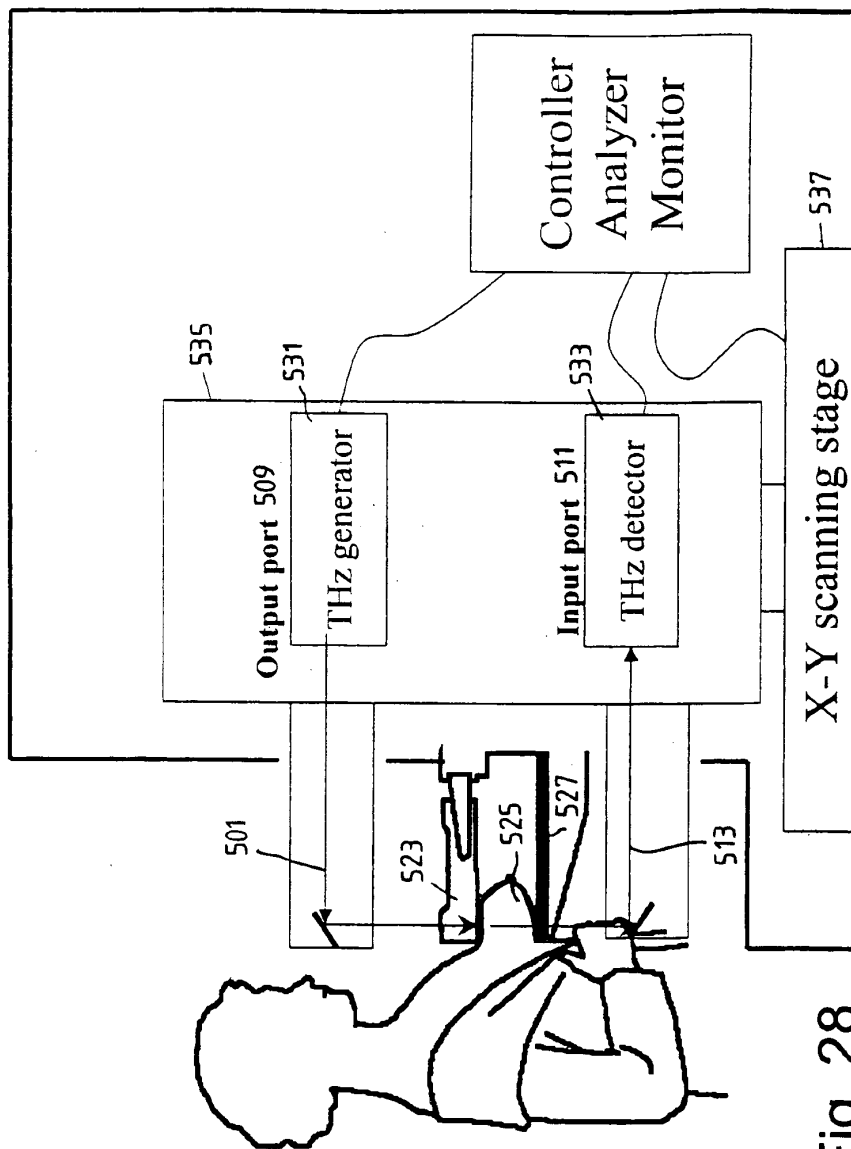
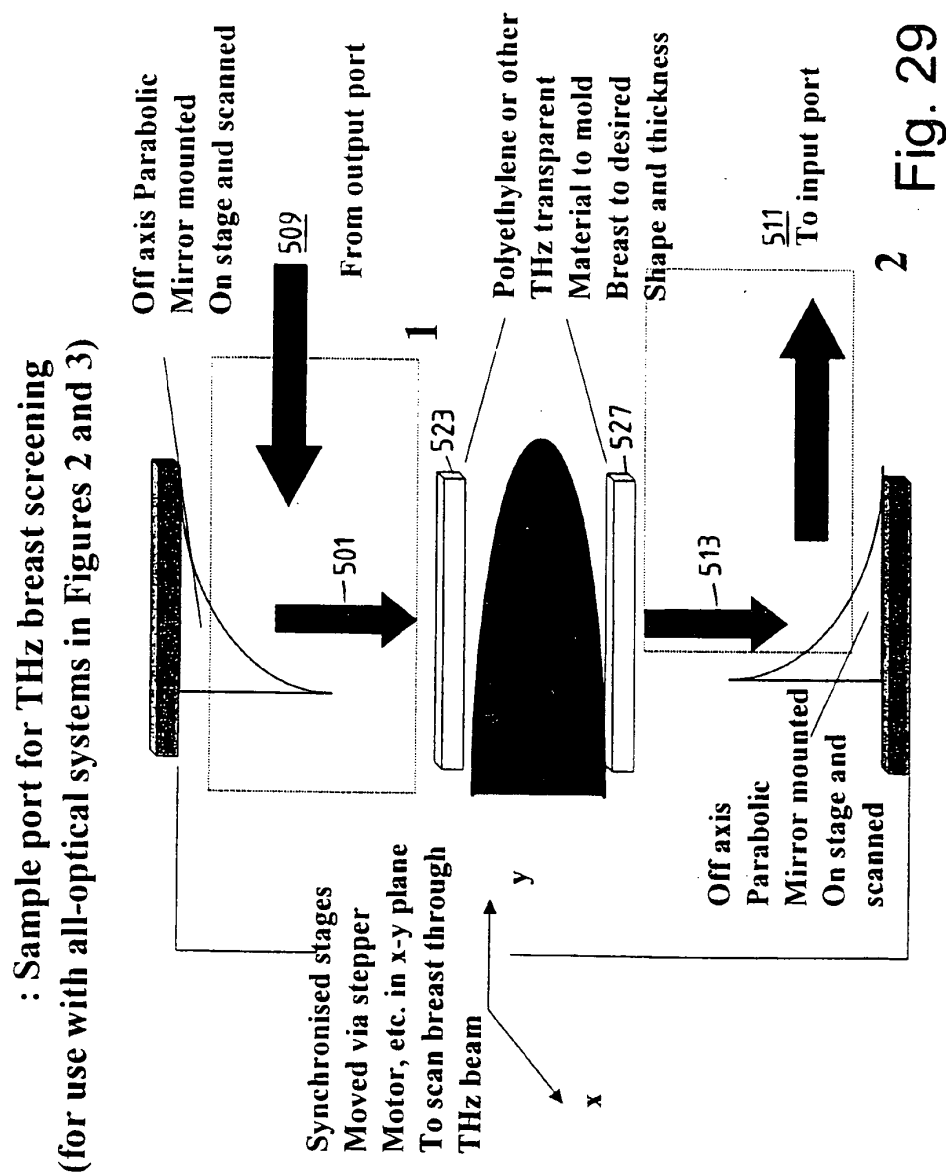


Fig. 28



: Possible alternative configuration of coupling optics used in Figure 5 (regions denoted 1. And 2. In dotted boxes).

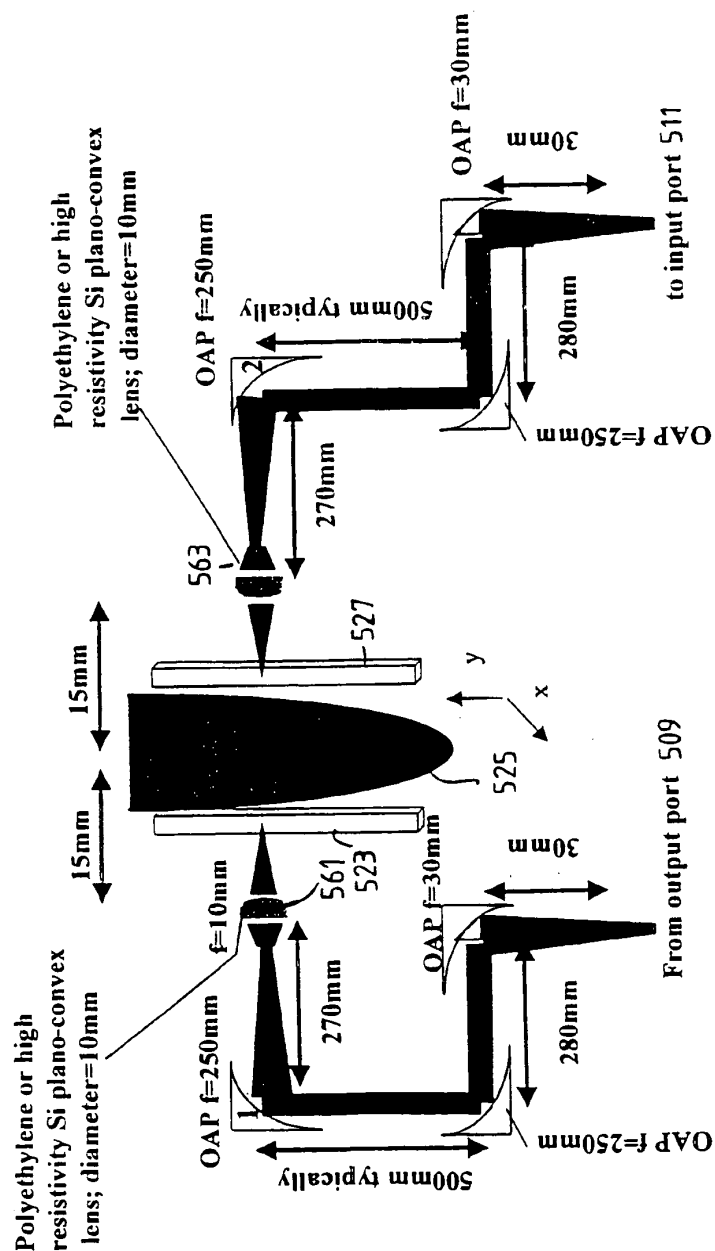
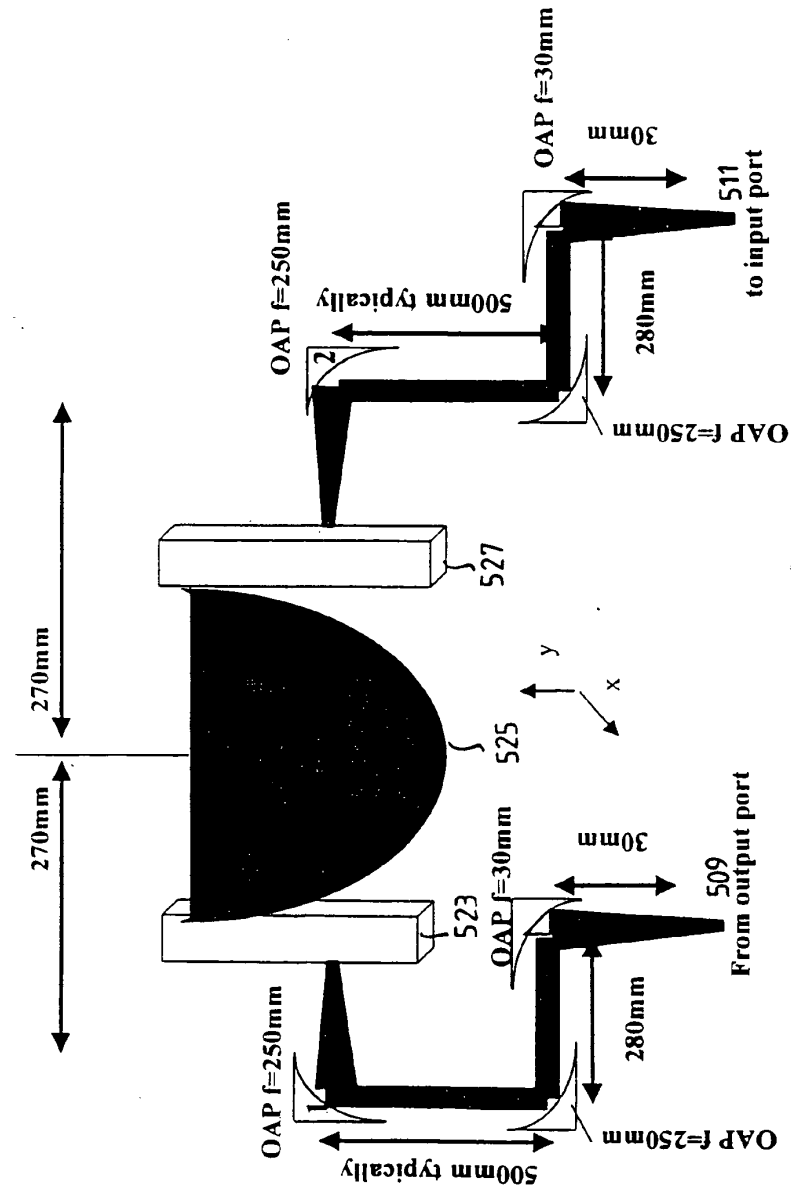


Fig. 30

All mirrors are off-axis parabolics (OAPs). OAP's designated by 1. And 2. Are on synchronised X-Y stepper motor stages

: Possible alternative configuration of coupling optics
used in Figure 5 (regions denoted 1. And 2. In dotted boxes).



All mirrors are off-axis parabolics (OAPs).
OAP's designated by 1. And 2. Are on synchronised
X-Y stepper motor stages

Fig. 31

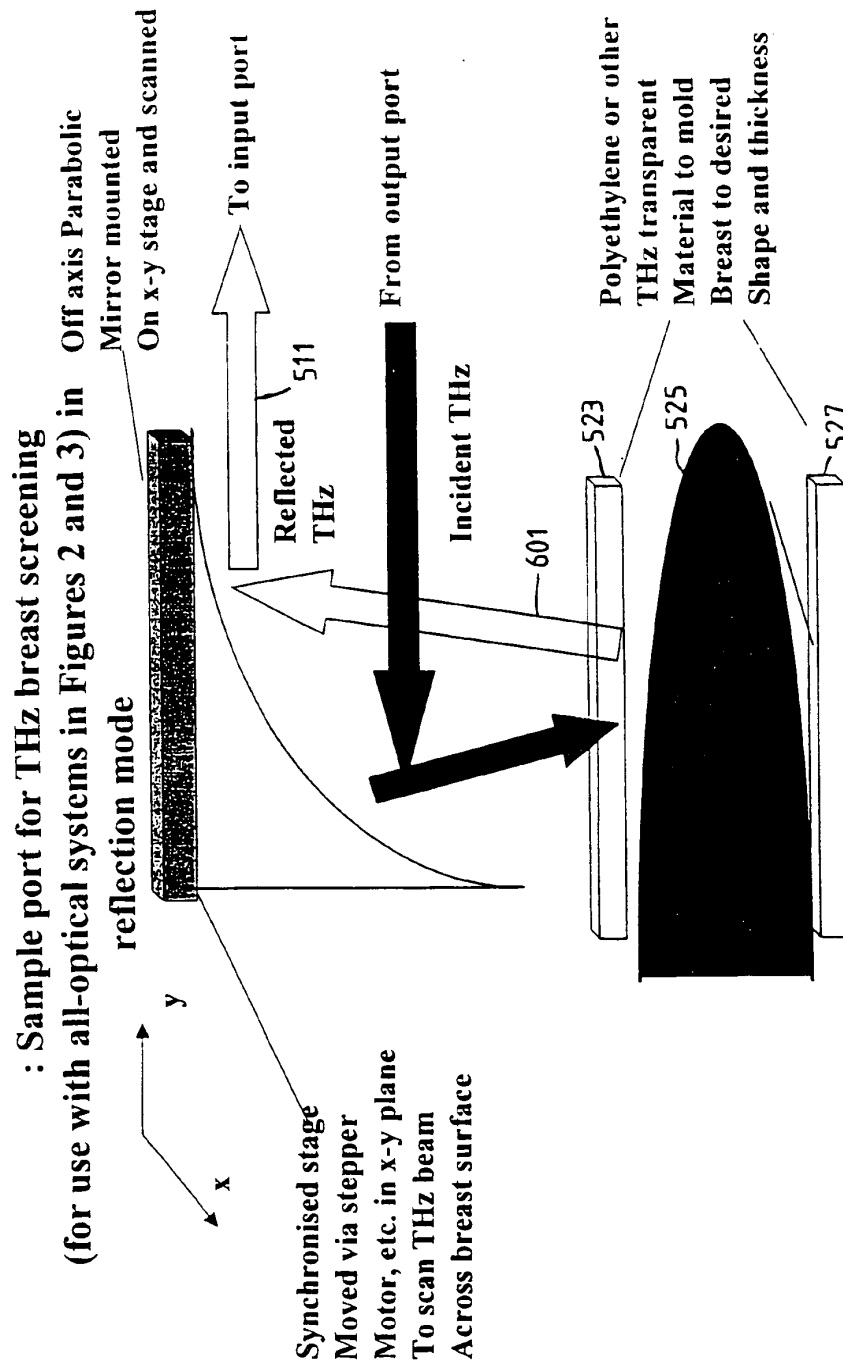


Fig. 32

All mirrors are off-axis parabolics (OAPs).

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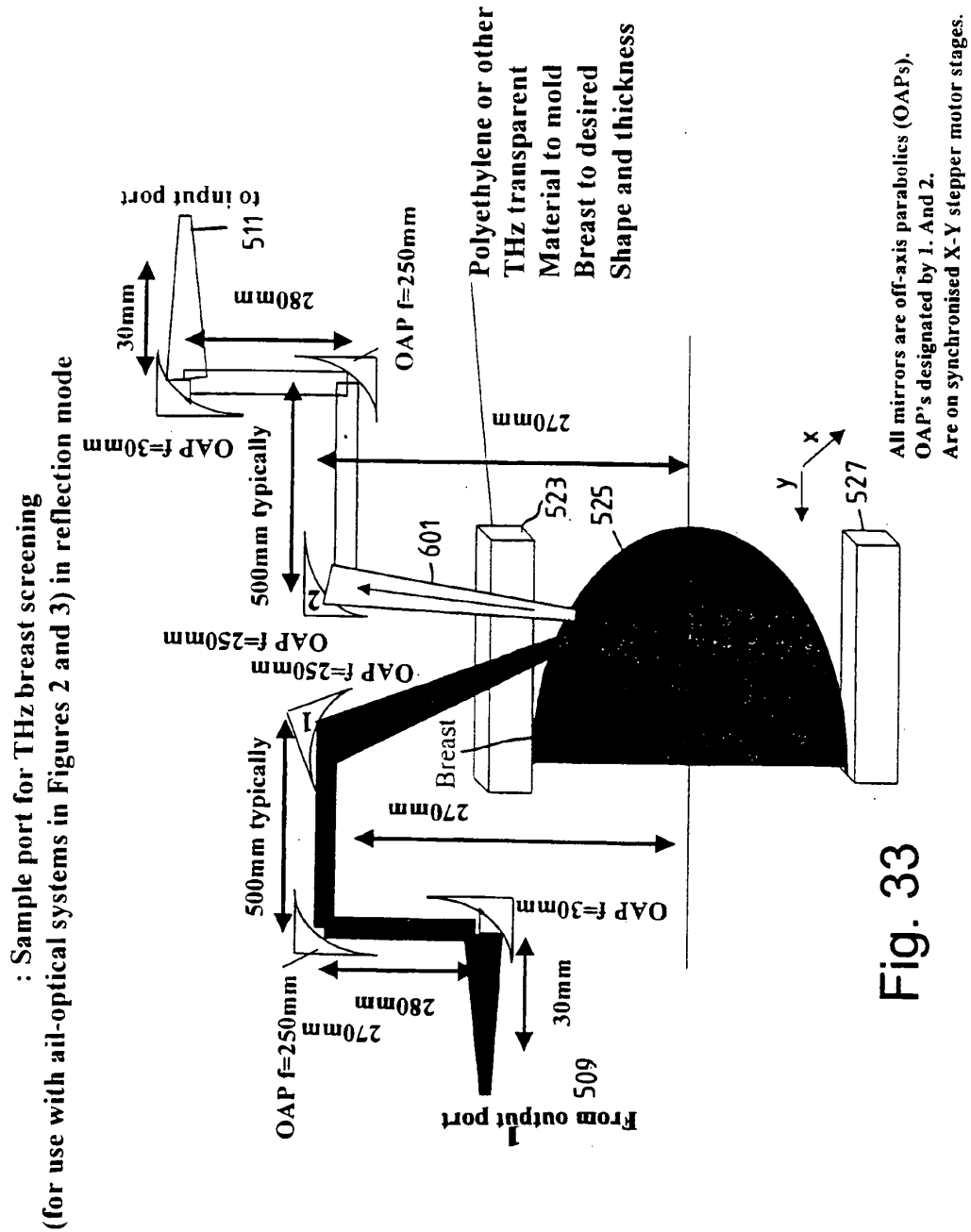
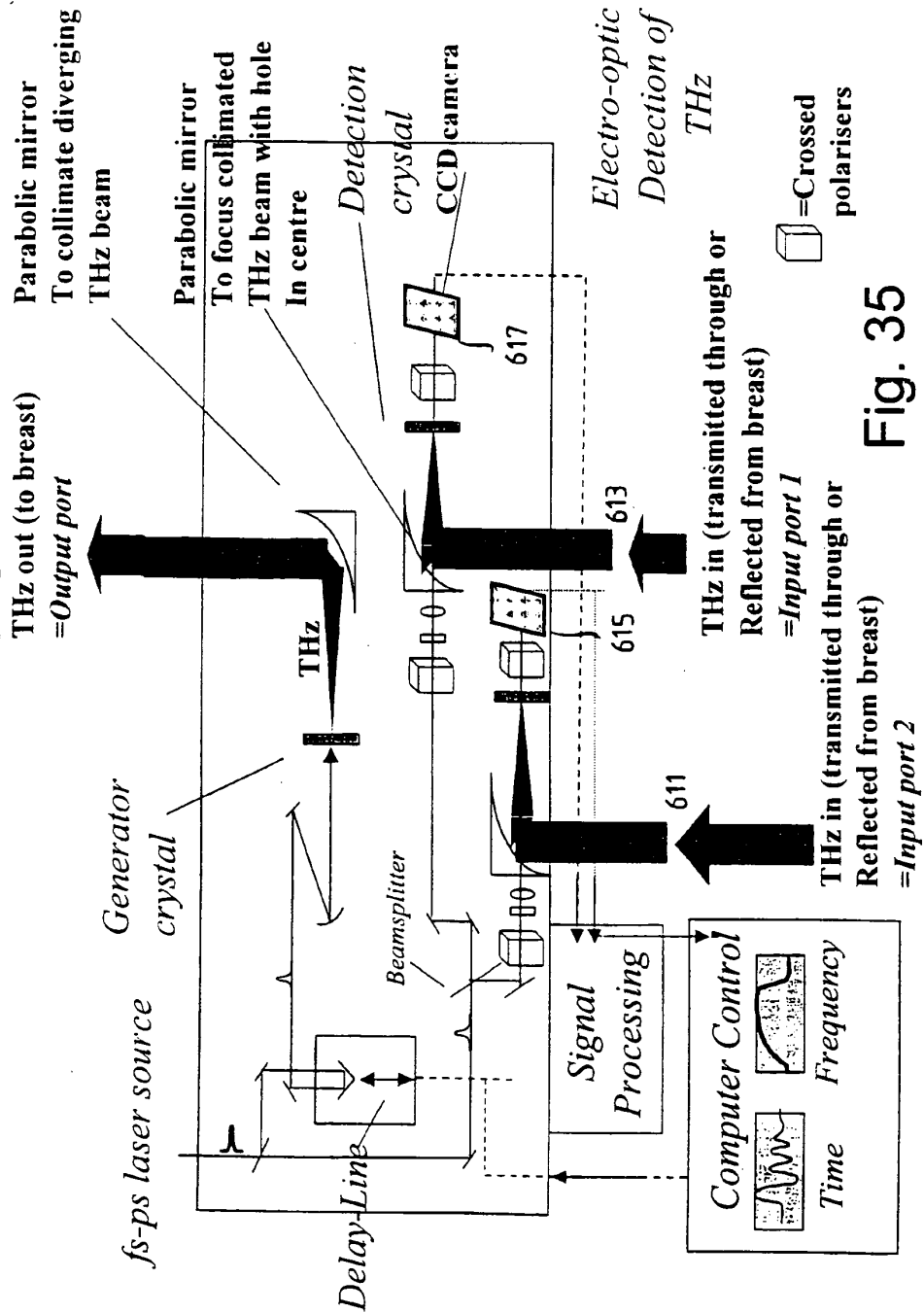


Fig. 33

[illegible]

Fig. 34

**: All-Optical THz Imaging System with photodiode
detection for two input port measurements**



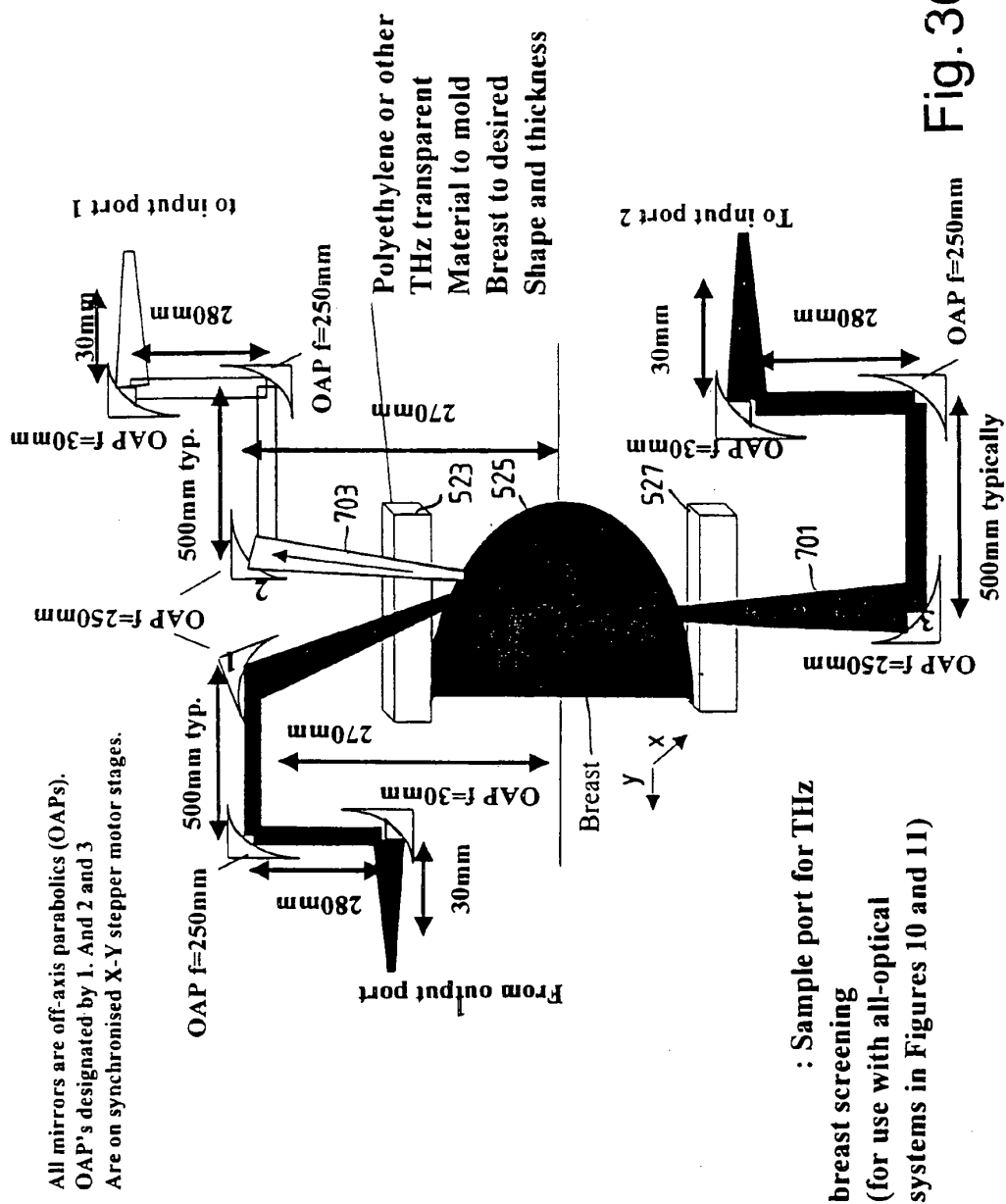
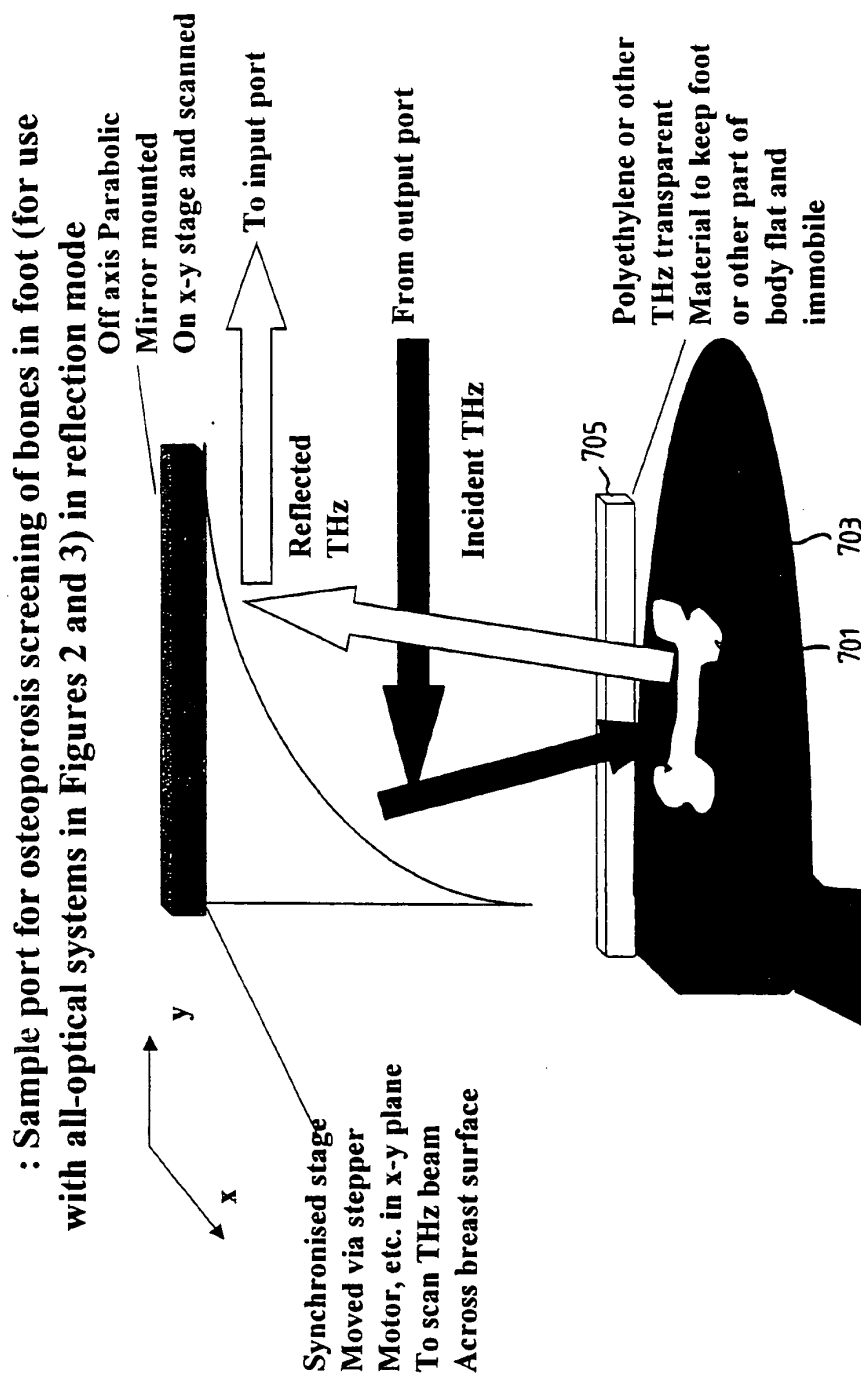


Fig. 36



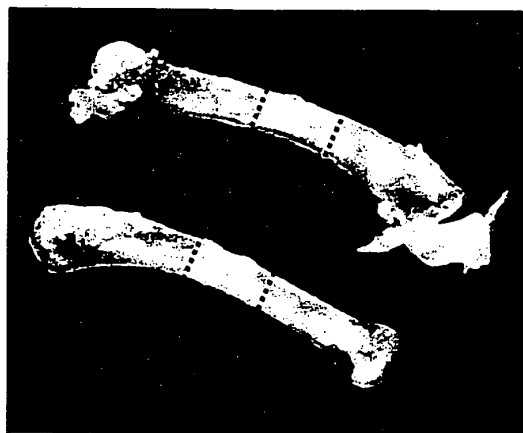
All mirrors are off-axis parabolics (OAPs).

Fig. 37

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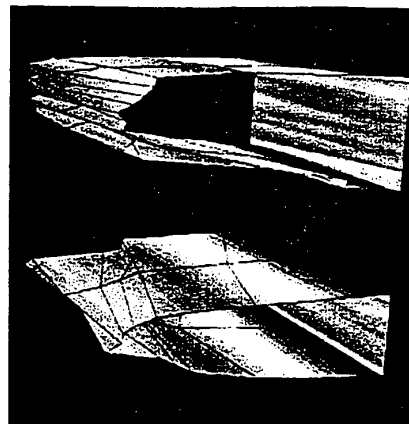
: THz transmission through animal bone

Example of 2 bones - visible image



(a)

3D THz image through 2 bone sample



(b)

Fig. 38

: Medical Imaging using Terahertz light in a human tooth

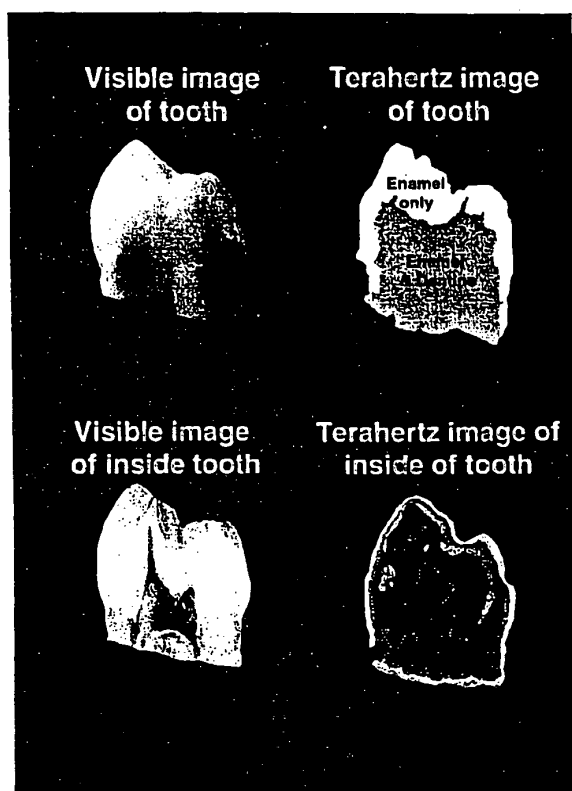


Fig. 39

: THz imaging of different types of animal tissue: clotted blood

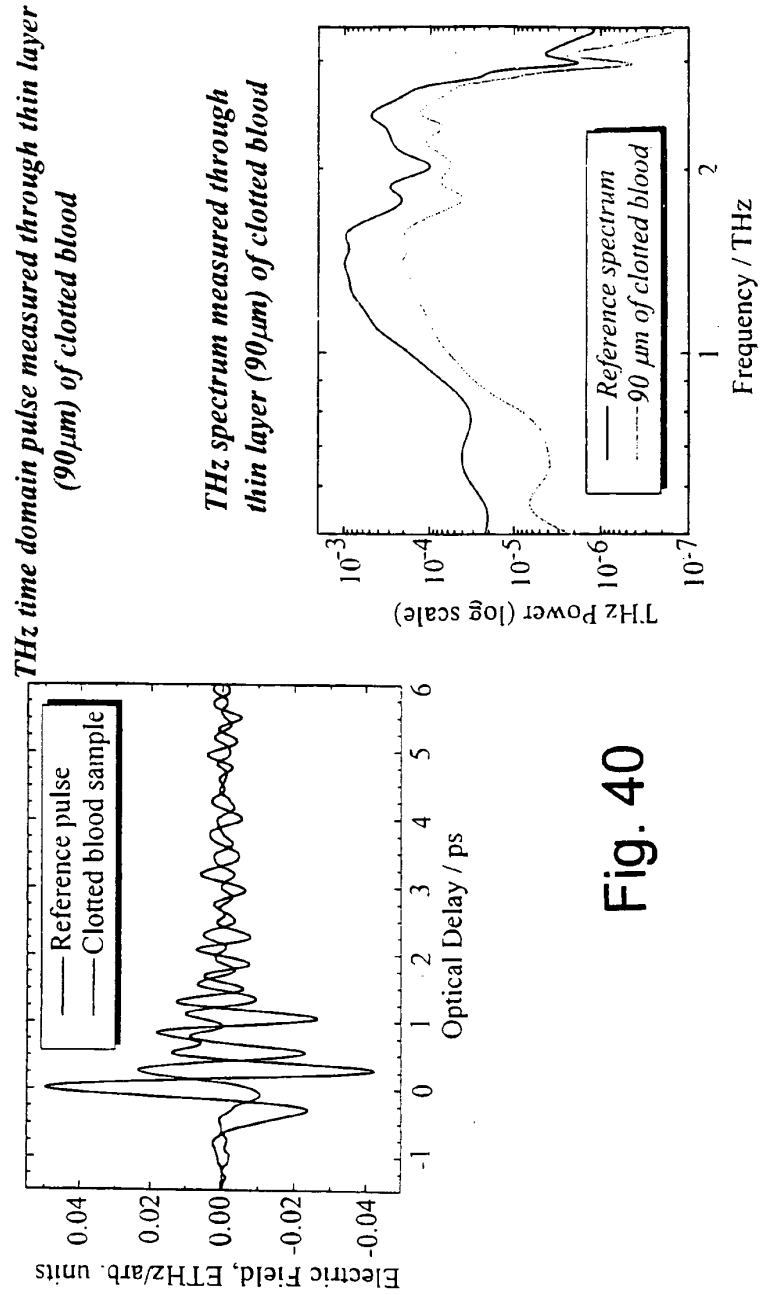


Fig. 40

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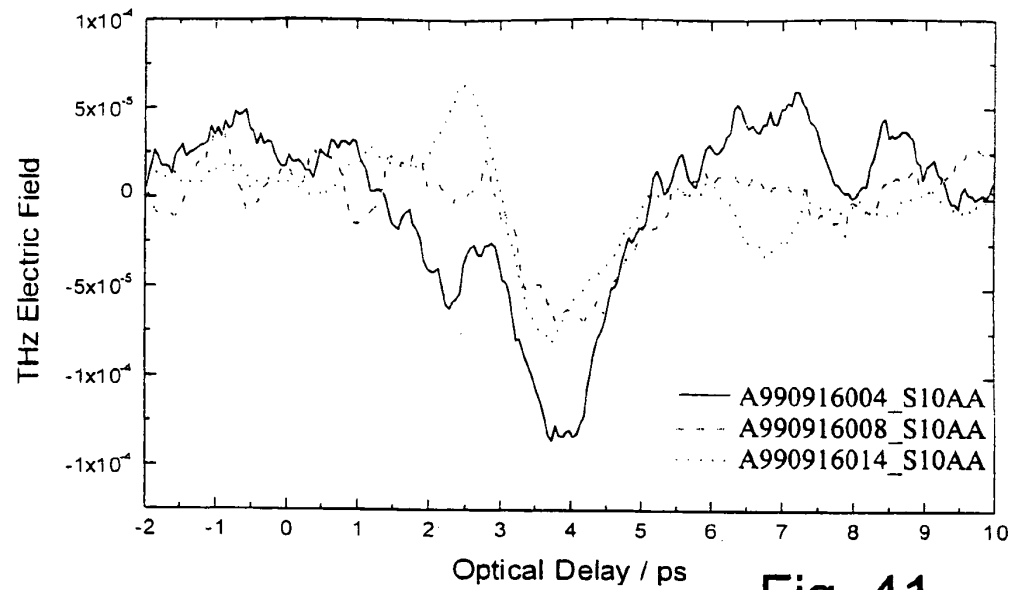


Fig. 41

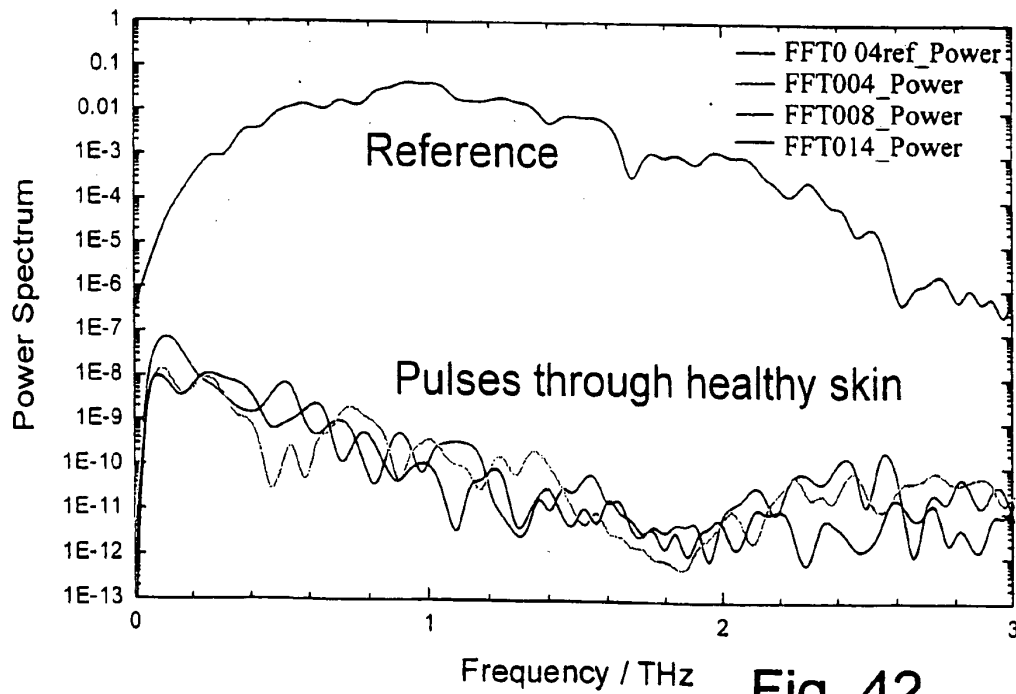


Fig. 42

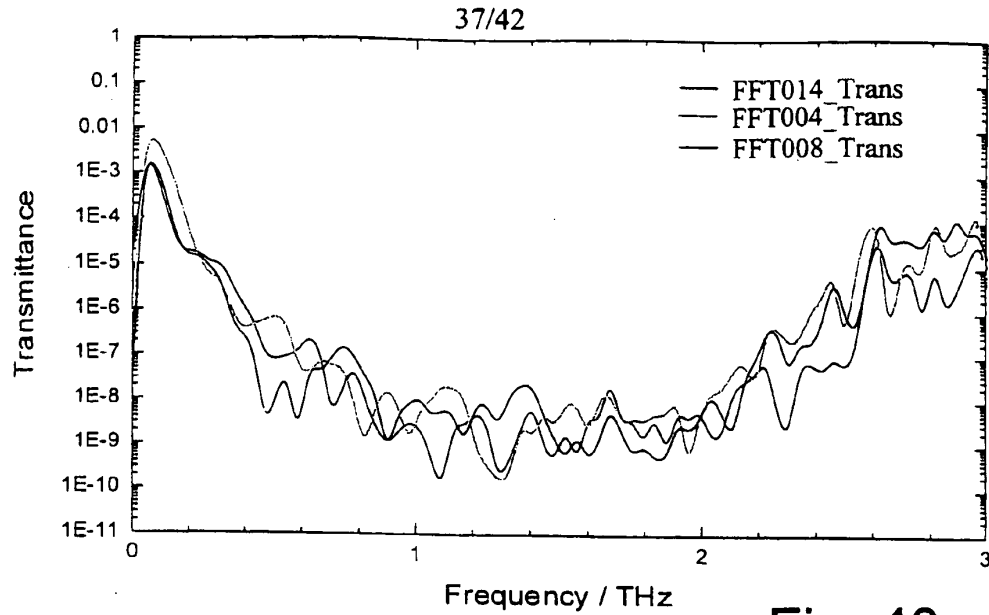


Fig. 43

Transmittance = (signal through skin)/(reference signal)

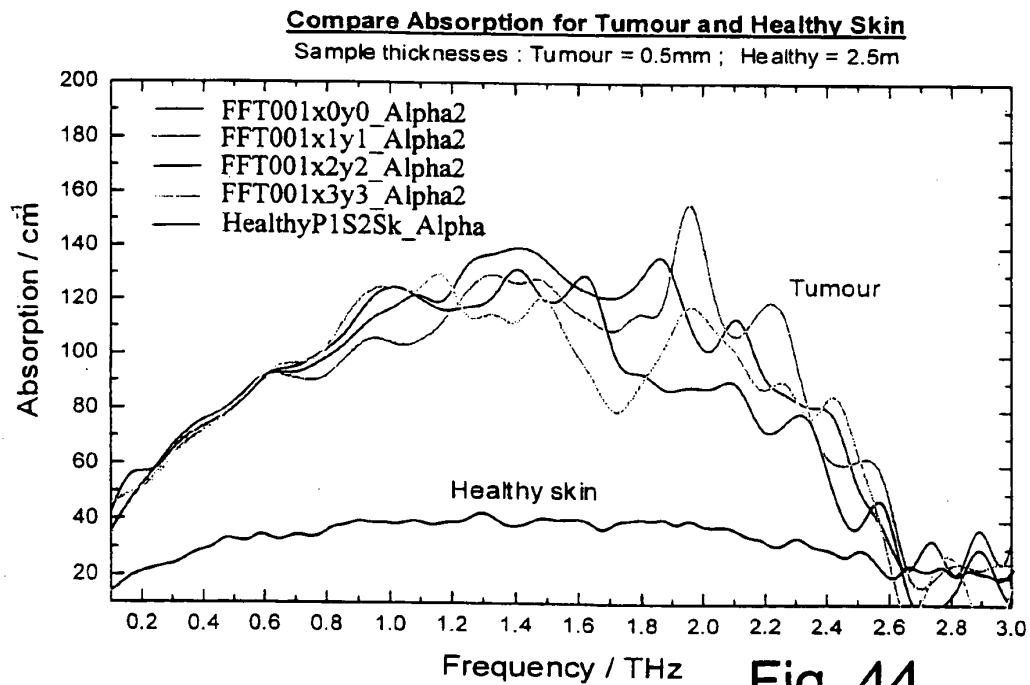


Fig. 44

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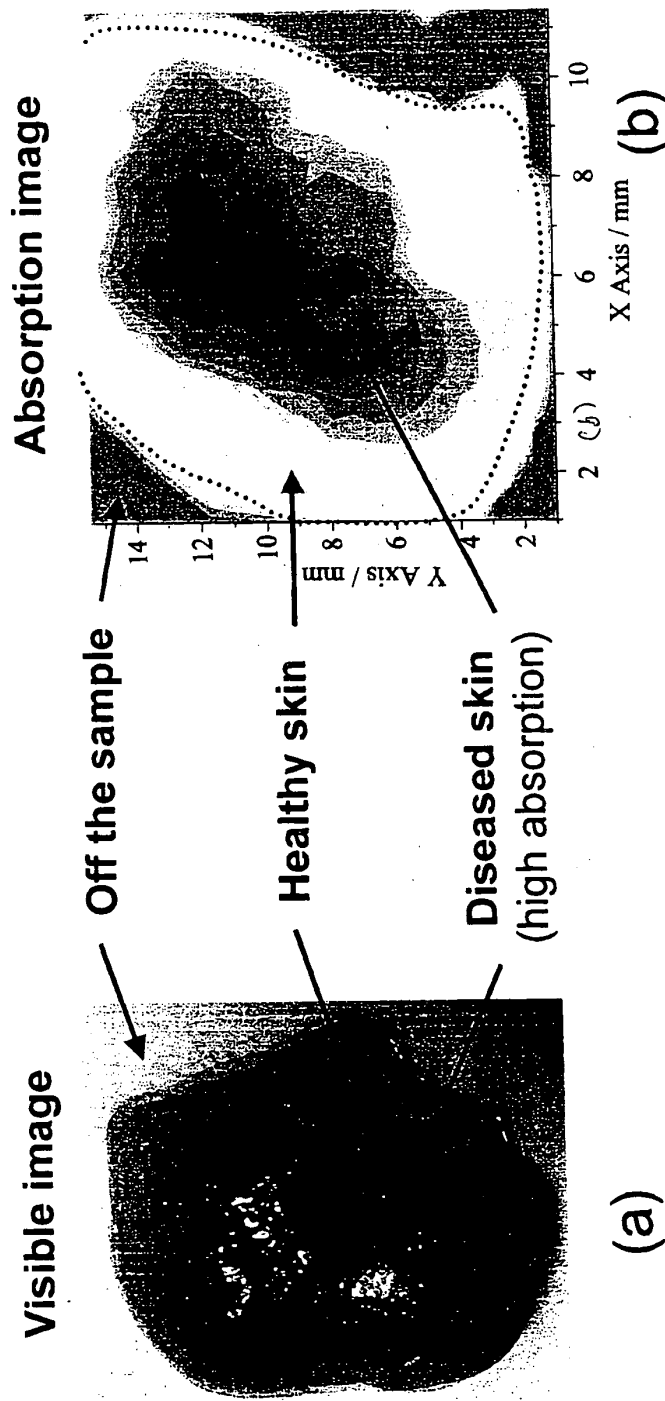


Fig. 45 THz Pulse Laboratory

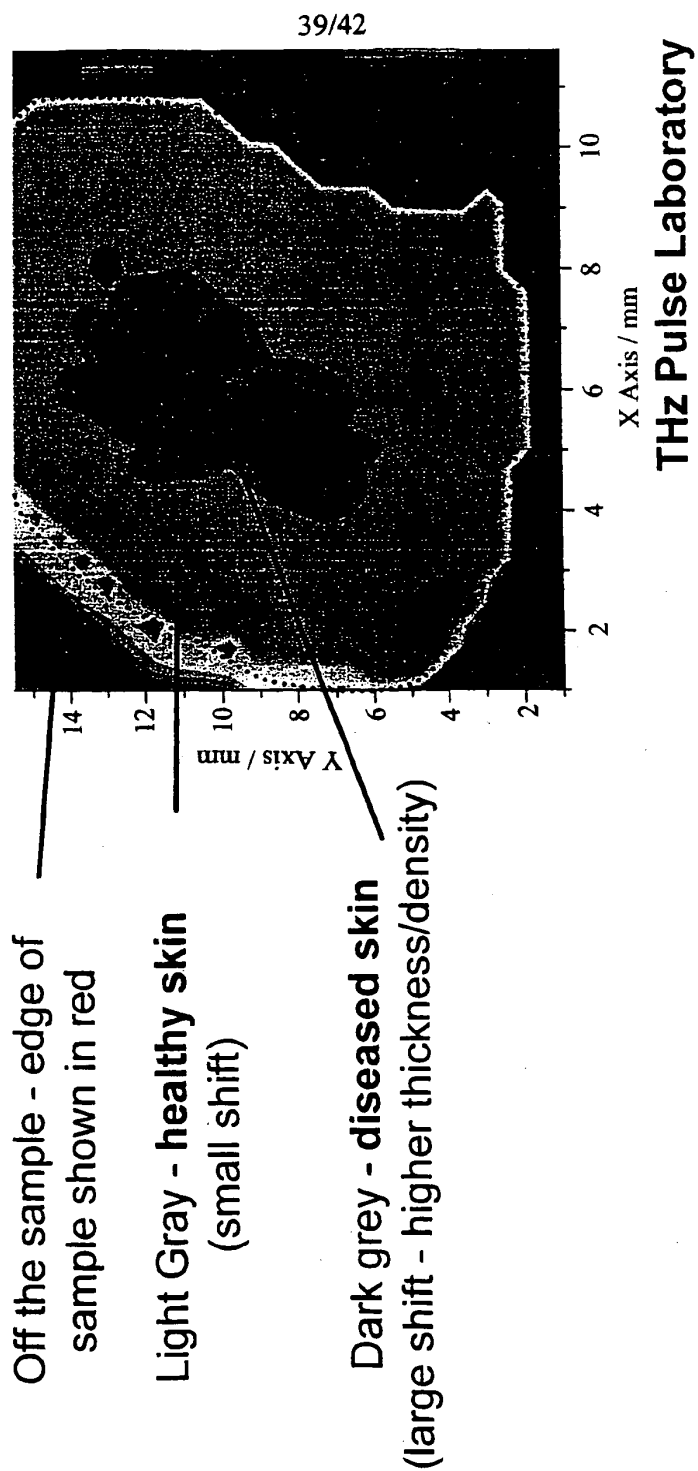


Fig. 46

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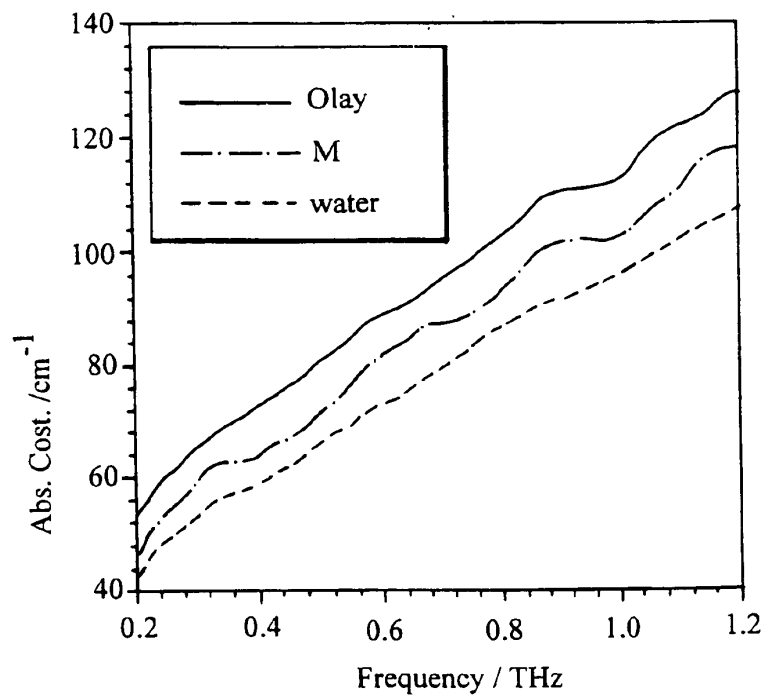


Fig. 47

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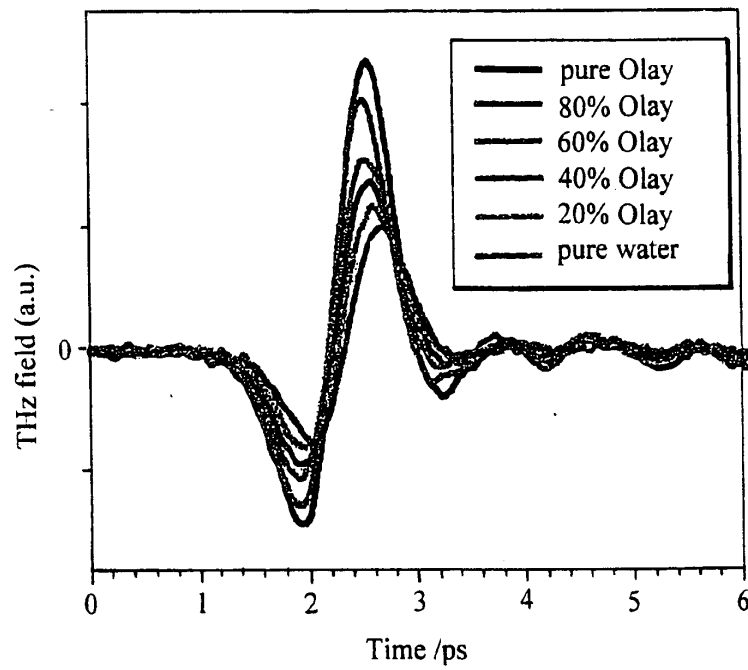


Fig. 48

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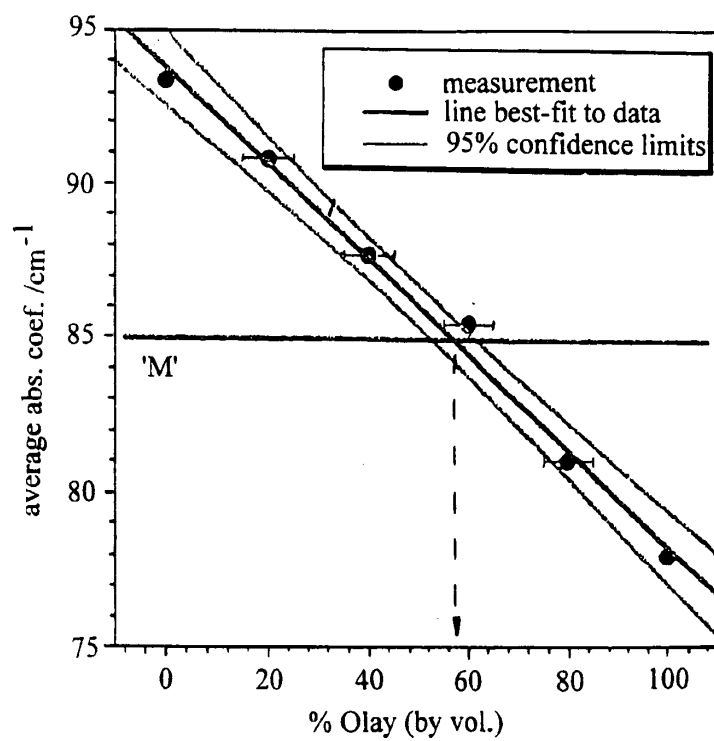


Fig. 49